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# FutureMusic®

Issue 381
Making the future since 1992

# RETHINK YOUR DAW

## Is it time to consider a switch?

Pros, cons and misconceptions: 2022's biggest DAWs in-depth

IN THE STUDIO WITH...

### THE CRYSTAL METHOD

The US big beat icons in the studio

INTERVIEW

### MIKE PARADINAS

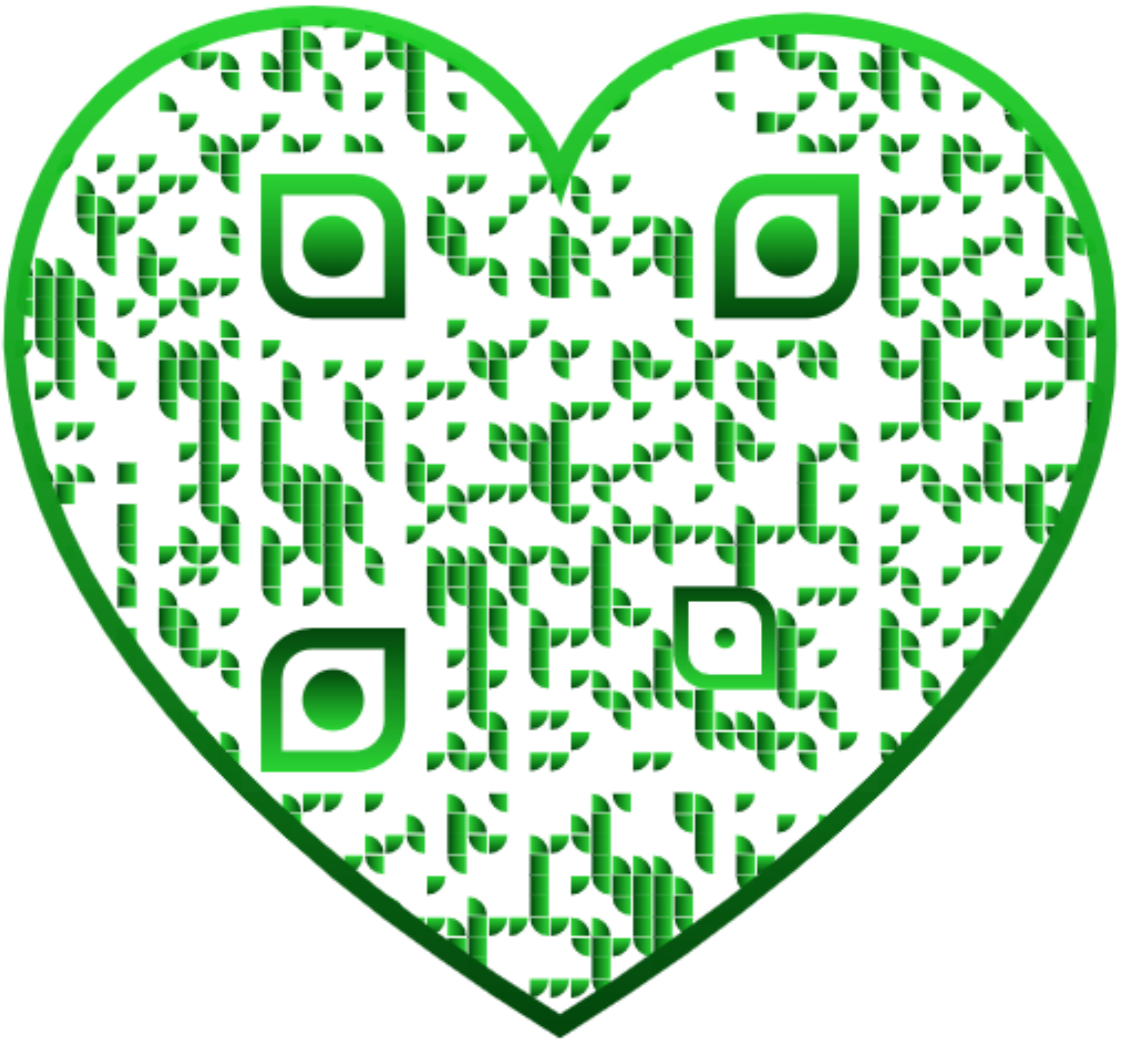
The Planet Mu boss on µ-Ziq and more



IN THE STUDIO WITH...

### GOLDIE & JAMES DAVIDSON

On the return of Subjective



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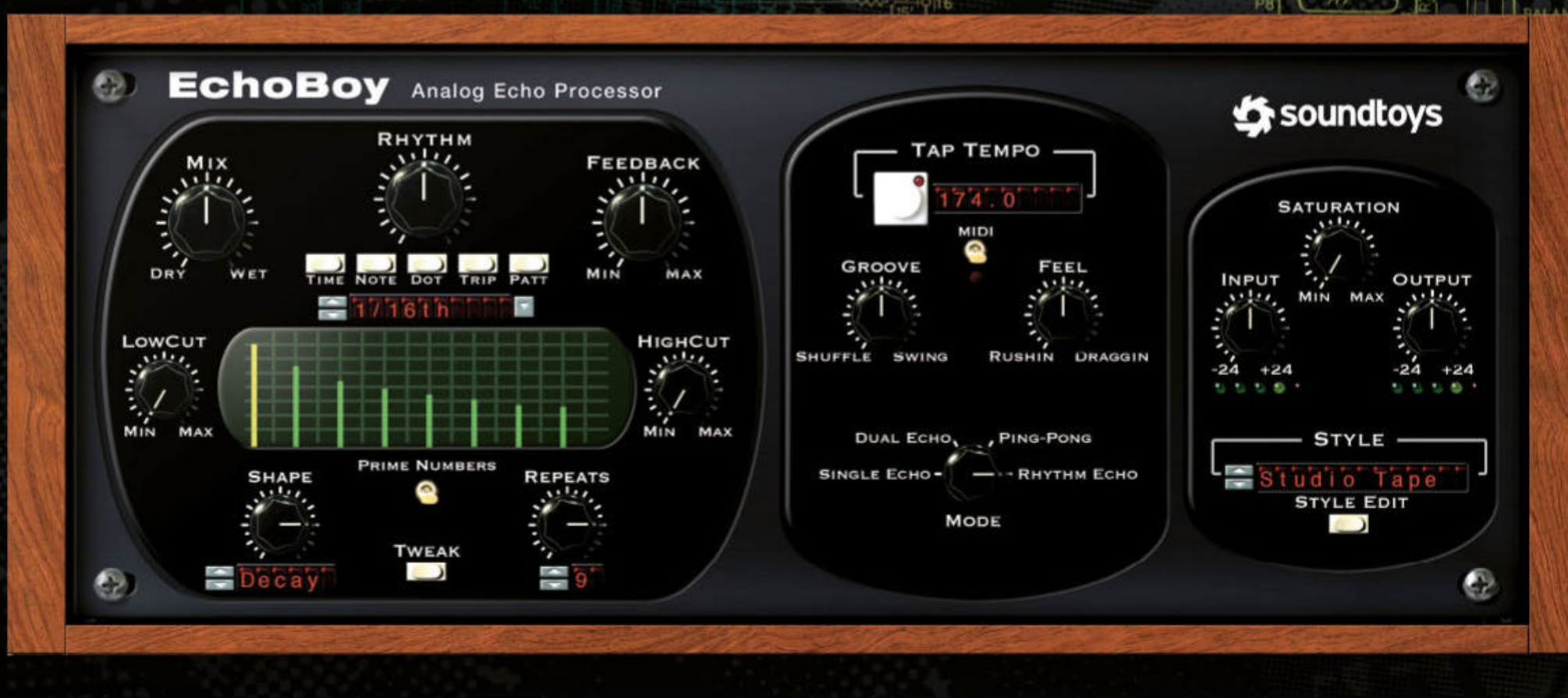


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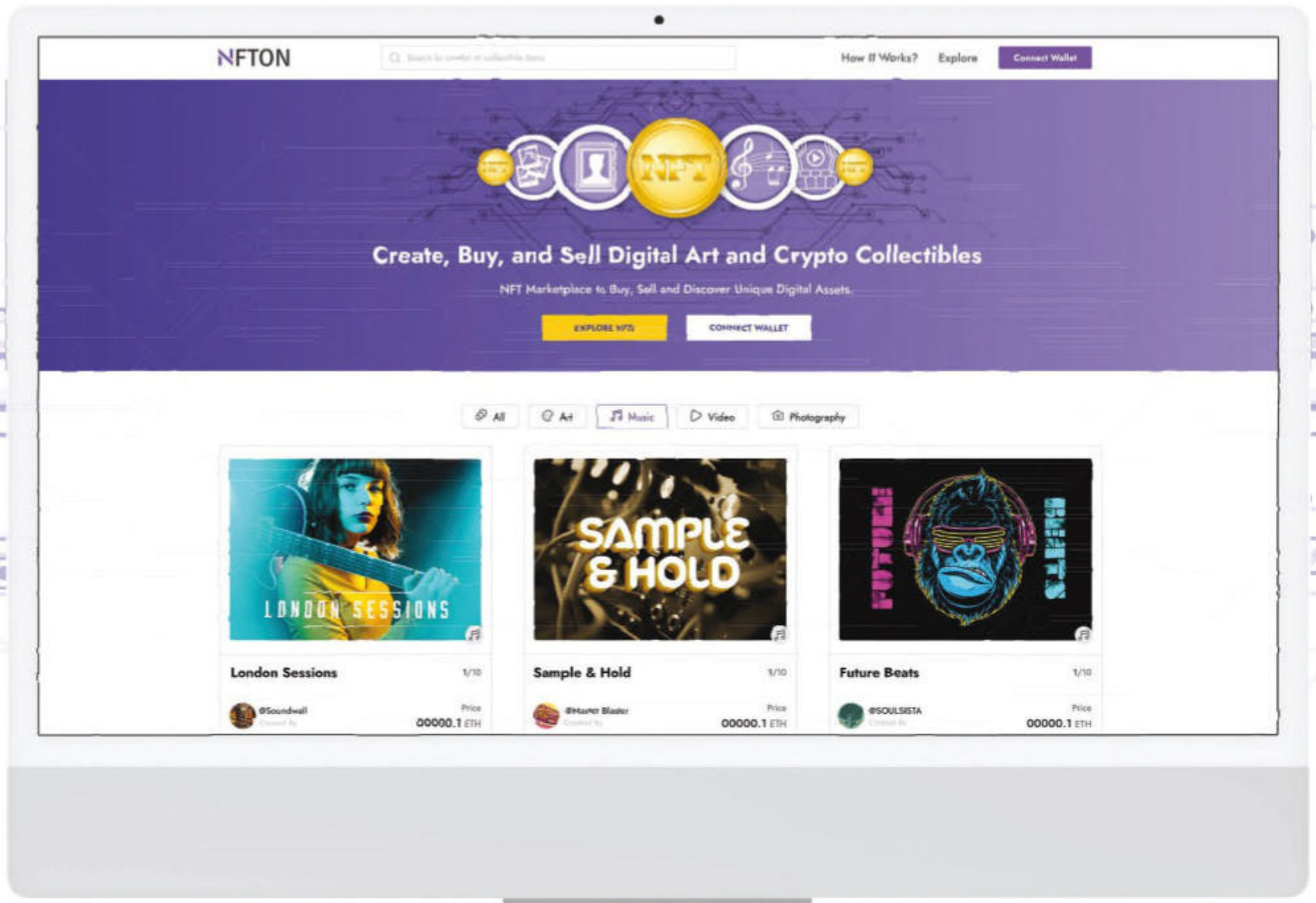


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# DAWs of perception

Probably more so than with any other bit of music making gear, producers can get very tribal about their DAWs. Sure, it's common to find specific synths or plugins with their ardent fans or detractors, but DAW users are a particularly defensive bunch. Try telling a Live user how much you like Logic's looping tools, or a Cubase user why Studio One is better for scoring, and you'll no doubt be met with some defensive diatribe worthy of the depths of Reddit.

While it makes sense to learn one DAW and stick with it, there's also something to be said for reaching across the divide and exploring a new application – and the fresh ways of working that can come with it. That's what we're doing this issue: taking a long look at the DAW market in 2022 and asking if it's time to rethink a few of your long-held preconceptions.

We hope you enjoy the issue.

Si Truss, Editor-In-Chief
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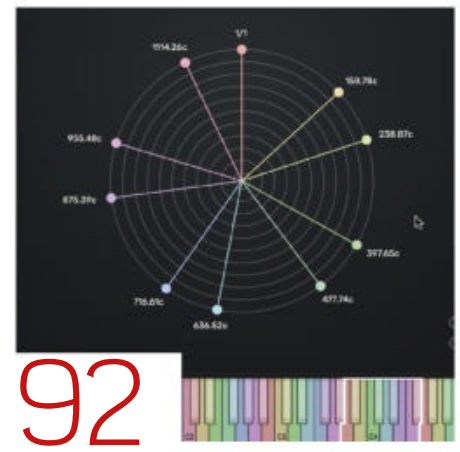

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**PRODUCE LIKE...**

### Turno

**INCLUDES VIDEO**

The DnB club king turns extreme sports psychiatrist for dizzy-making new track *Melia* (featuring climber, George King)

## ACCESSING YOUR BONUS DIGITAL CONTENT

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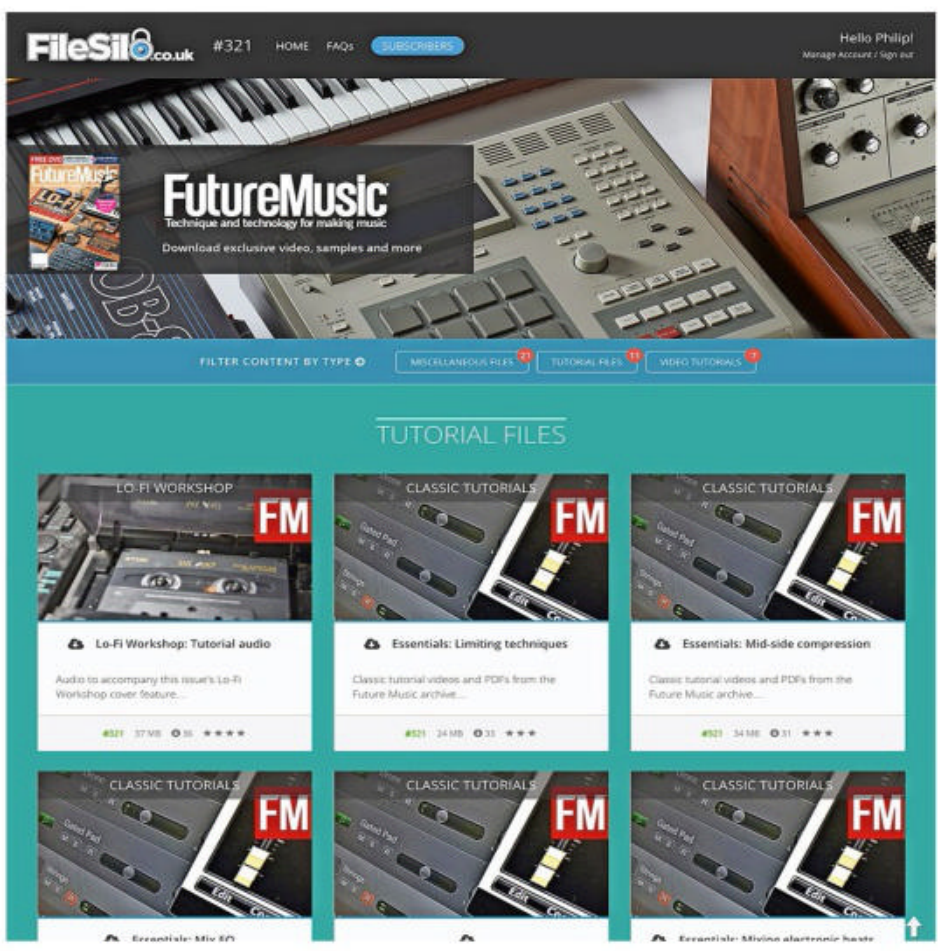
This issue's bonus samples, videos, audio and bonus archive samples are all available to access via FileSilo. At the link above, log in or register, then unlock over 12GB of goodies!



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- '90s Ambient (562 samples)
- Ambient Dawn (490 samples)

### AMBIENT SOUNDS PT.2

- Majestic Bells & Mallets (444 samples)
- Spring Reverb & Tape Delay (533 samples)

### ATMOSPHERES & BACKGROUNDS

- Atmospheric Beds (369 samples)
- Noise, Crackle & Hiss (512 samples)
- Sounds of the City (371 samples)

### CLASSIC SYNTHS PT.1

- Analogue Polys (625 samples)
- SH Collection (500 samples)

### CLASSIC SYNTHS PT.2

- Analogue Poly Chord Hits (342 samples)
- Classic Synths: '80s, '90s, '00s (678 samples)
- Hardware Arps (511 samples)

### CREATIVE DRUMS

- Cyborg Beats (514 samples)
- Lo-Fi Sampling (555 samples)
- Obscure Drum Machines (517 samples)
- Overloaded Beats (889 samples)

### ESSENTIAL DRUMS

- 808 and 909 (39 samples)
- Ultimate Cymbals (503 samples)
- Ultimate Kick Bundle (505 samples)
- Ultimate Snares & Claps (676 samples)
- Vintage Drum Machine Hits (548 samples)

### FX & TRANSITIONS PT.1

- Filter Fun (496 samples)
- Gates 'N' Sidechains (287 samples)
- Total Transitions (260 samples)

### FX & TRANSITIONS PT.2

- Destroyed synths (519 samples)
- Sci-Fi FX (501 samples)

### HIP-HOP, FUNK & SOUL

- Cosmic Soul (386 samples)
- Funk Keys (279 samples)
- Hip-Hop Drum Machines (387 samples)
- Minimal Hip-Hop (540 samples)

### HOUSE & TECHNO

- Chicago House (537 samples)
- House & Techno Stabs (213 samples)
- Jacking House (518 samples)
- Warehouse Techno (575 samples)

### PERCUSSION

- Modular Percussion (510 samples)
- Shakers, Tambs & Toplines (503 samples)
- Sticks, Knocks & Rims (502 samples)

### TRANCE & RAVE

- Classic Breakbeats (371 samples)
- Rave Synths (524 samples)
- Trance Tools (537 samples)

## AND THERE'S EVEN MORE!

### AMBIENCE EXTRAS

- Ambient Orchestral (246 samples)
- Ambient Piano (469 samples)
- Sound From The Ether (492 samples)

### BASS BUNDLE

- Amped-Up Bass (234 samples)
- Sub-Frequency Grooves (256 samples)

### FOUND FAVOURITES

- Mechanical Sounds (390 samples)
- Out There FX (500 samples)
- Studio Noise (234 samples)
- The Edge Of Noise (512 samples)
- The Sound Of Water (375 samples)

### FUTURE DRUMS

- Beyond Breakbeats (186 samples)
- Digital Percussion (502 samples)
- Electro FX (321 samples)
- Granular Drums (499 samples)

### MORE BEATS

- '80s Pop Drums (197 samples)
- Dub Percussion 2 (537 samples)
- Jazz Drums (499 samples)
- Total Snares (501 samples)

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# Universal Audio make a bold venture into the mic sphere

## New condenser, dynamic and modelling mics announced – with more in the pipeline

Universal Audio have announced that they're getting into the mic business, and they're certainly doing so in a big way. Not only have the US brand unveiled new dynamic and modelling mics, which are due to arrive imminently, but they've also revealed plans for a new condenser mic and a whole 'premium' tube/solid-state series in the coming months.

Let's start by looking at the Standard series, which contains the SD-1 dynamic mic and SP-1 condenser. The SD-1 is a broadcast-style mic designed for close-miked speech, vocal and instrument recording. Available now for $379, it features a cardioid polar pattern and selectable low-cut and articulation boost switches.

The SP-1, meanwhile, is actually a pair of pencil mics that you can use to capture stereo acoustic instruments, drums and live performances. It's designed to reject off-axis audio and background noise, and will be available in the summer priced at $499.

Both of the mics in the Standard series come with Apollo interface presets that are designed to give you a pro sound.

Next, we have the Sphere L22 Modelling Microphone, previously a Townsend Labs product. A large-diaphragm modelling condenser, this pairs a dual-capsule design – for stereo or blended mono recording – with mic modelling technology. When used in combo with the UAD Sphere L22 plugin, users can emulate the sound of 34 ribbon, condenser, and dynamic microphones. You can buy this one now for $1,499.

Last but almost certainly not least, UA has confirmed a premium line of tube and solid-state condenser mics to be designed and built by David Bock in Santa Cruz, California. The so-called Bock series won't be available until autumn. We don't know how much each model will cost, but you can expect the UA Bock 187 (a cardioid FET condenser microphone for vocals, instruments, and guitar amps), the UA Bock 167 (a multi-pattern tube condenser microphone for vocals, acoustic instruments, drums, and voiceovers) and the UA Bock 251 (a multi-pattern tube condenser microphone for lead vocals, choir, and stringed orchestral instruments). FM

Townsend
Labs Inc

# Bitwig 4.2 adds a modular sequencer and new effects

At first glance, it looks like Bitwig Studio 4.2 comes with three new effects, but it turns out that looks can be deceiving. That's what Bitwig would have us believe, anyway; as each of these effects has four different 'Characters', they promise, you're effectively getting 12 new audio processing tools.

Upselling aside, there are definitely three 'main' effects, all of which come from the modulation family. They go by the names of Chorus+, Flanger+ and Phaser+. Bitwig say that each of the Characters is similar to a different era of vintage studio hardware and, as a result, will give you a different type of sound.

Under the hood, you can mix 'n' match LFOs, step sequencers and any of Bitwig Studio's 38 modulator devices to make the algorithms your own, and all three effects can be used as modules for Bitwig's Grid modular sound design environment, too.

Speaking of which, Bitwig Studio 4.2 adds a third device for use with The Grid: the Note Grid. Designed for the processing and even generation of notes, this can be used in conjunction with The Grid's 184 modules and polyphonic structure.

There's a new Note Out module, too – connect a gate signal and this will start outputting notes. Pitch, velocity, and channel can be set manually or with dynamic signals, and MPE fans can go even deeper by accessing signals for each note's timbre, pressure, gain and panning expressions. The Note Out module can also be used in the other Grid devices – Poly Grid and FX Grid. Note Grid comes with eight "production-ready" presets that are designed to show off what it can do.

Bitwig Studio 4.2 arrives with a number of other tweaks, too, as well as a French language option. Très bon! Anyone with an active Bitwig Studio upgrade plan can download the version 4.2 beta today, with official release currently scheduled for March 2022.

# Generate endless drum samples using AI with the new Synapse Drums service

**AI is likely to change the process of music production in ways that we haven't even thought about yet – or, perhaps, ways that we don't want to think about – a fact that's now been proven by AudioLab's new Synapse Drums service.**

**This is unlike anything we've seen before in that it promises to create an endless number of drum samples from scratch. It was 'trained' with machine-learning using 1000s of drum samples from all genres of music, plus a few weirder sounds to keep things interesting.**

**As things stand, the interface is extremely simple, comprising just a grid of four squares. In the top left, you have the current drum sample, while in the square below you'll find options to create another one that sounds similar, generate something completely new and download your current creation.**

**To the right, meanwhile, are volume and reverb controls, which you can set prior to downloading. It'd be nice to have a bit more editing flexibility, and to be able to specify what kind of drum sample you want to be generated (kick, snare, hi-hat, etc) but Synapse Drums certainly seems like a promising piece of work.**

**The current roadmap includes plans to create a VST/AU plugin version and form artist/label partnerships, and you can expect community tools and a marketplace, too. The service is currently at the early alpha stage, and is set to operate on a subscription basis with Basic, Premium and Elite tiers. These are priced at $10, $20 and $30 respectively.**

## Waves Cosmos is a free sample management tool that organises all your loops and one-shots

Cosmos is a new, free sample management tool from Waves, designed to help organise your loops and samples. What's more, it comes with 2,500 free royalty-free one-shots and loops.

Cosmos is designed to bring order to your sample collection, putting all the loops and one-shots on your hard drive into one easy-to-search place.

Waves say that their Neural Networks technology can analyse, auto-tag and sort your samples, leaving you with a single unified

database where you can easily find everything you have.

You can 'see' your samples in three possible different views: Waveform, List and Cosmos. All of your one-shots and loops can be filtered and searched by instrument, BPM, key and sonic characteristics, and WAV, AIFF, OGG and FLAC files are supported.

Once the analysis has been done, the theory is that you can then find a distorted kick drum (for example) simply by typing the words 'distorted' and 'kick' into the search bar, regardless of how your sounds are named. Files can be previewed in Cosmos, and then dragged and dropped into your sampler or DAW.

Cosmos runs as a standalone app and also integrates with Waves' CR8 creative sampler plugin.

You can download it now from the Waves website.

# Download 33 Audio Damage plugins for free – just don't expect any support

Audio Damage have been in the plugin game for two decades now, and it's fair to say that they've played it pretty well. The company's synths and effects have consistently scored highly in reviews, so you might wonder why they've recently announced that they are making 33 of their products available for free.

There are some real zingers to choose from, including the Phosphor and Basic synths, Mangleverb reverb, Bitcom bitcrusher, Filterstation filter, the PanStation auto-panner, the Discord 3 pitchshifter, the Automaton buffer effect, the Kombinat multiband distortion and the Axon 'neural network' drum machine.

The company give several reasons for taking this seemingly radical step, starting with the fact that it will save them from having to provide support (you're on your own when you use these plugins, basically).

In a blog post, Audio Damage explain: "The vast majority (like 90-95%) of our support email is people needing to get at the legacy

versions from their pre-2016 Audio Damage accounts. This goes in cycles, but whenever Apple or Microsoft introduce a significant change to their respective platforms, hundreds or thousands of old customers come out of the woodwork looking for a 20-year-old installer.

"Since most of those products aren't even in this post-2016 Shopify store, we end up sending Dropbox links to the installers over and over again. Just having these products out in the open will solve that issue."

There's also the issue of piracy: "Most of these installers are readily available in 'cracked' form, and someone that wants to use one of them is putting their computer (and thus their creative life) at risk of malware due to the nature of pirated software," explain Audio Damage. "Having 'blessed' installers readily available from the source ensures that nobody will ever be punished for simply wanting to use one of our old products," they reason.

Why not simply update these products? Audio Damage have an answer for that, too, arguing that to do so wouldn't make business sense. "In many cases the code libraries on which [the products] are based simply no longer exist and hence updating them would entail rewriting them almost in their entirety.

"…the time we'd spend on such an endeavour would cost us more than we'd recoup in sales – particularly since the plugin market is now much, much larger than when these products were conceived."

So, the upshot of all this is that you now have access to 33 previously paid-for plugins for free, though there may be a bit of trial and error to find the ones that work on your system.

"If you write us asking why an installer built for OS X 10.4 won't work on a modern M1 MacBook Pro running Monterey, the answer is 'because Apple', and we simply don't have the time to write that over and over again."

Don't take that to mean that the plugins won't work on newer systems, though, as AD also say: "Most, if not all, of the Windows products will work in a DAW that is capable of hosting both 32- and 64-bit plugins, and many of the more recent products will work in Rosetta 2 on an M1 Mac. However, the further back in time you go, the less likely the plugin will work at all, on either system."

You can download the free legacy plugins on the Audio Damage site.

TALKING SHOP

# Tom VR

Over the past five years, Tom VR has issued a series of releases across labels like All My Thoughts and Inter-Graded, all the while developing his own imprint, Valby Rotary. His latest full-length project is his most ambitious yet, transmuting the aesthetic he's explored on earlier records into a 10-track statement that permeates the rhythmic frameworks of house music, trip-hop and DnB with colour, texture and vivid emotion.

**How and when did you first get into making music?**

"I started making music in high school at about 14. They had this software for writing musical notation, and I'd spend my breaks messing around with it in the library. I had no idea how to actually read music, but I just did everything by ear and process of elimination really. A friend in the same class used to make dubstep and taught me how to download FL Studio, which was basically the moment everything began."

**Could you talk us through your current studio setup?**

"I currently use a Macbook, Korg Arp Odyssey, Minilogue, and a Yamaha Reface DX. Drum machines have come and gone too. I also predominantly use HD25s instead of monitors, but will always reference on as many monitors as I can and get in an actual studio in the final stages. I still do a lot of work inside the box, probably down to the many years I poured into that first setup, but I think the addition of physical synths has kept the spark alive for me."

**Talk us through five of your most used plugins – what's great about them, what you use them for, etc…**

"I'm actually not that clued up when it comes to plugins, I guess some standout ones for me that I use all the time would be Valhalla Freq Echo (free, fun, and sounds great), and Klevgrand's Ting (authentic and unique percussion samples, and it looks sick). In fact I like all of the Klevgrand stuff to be honest. I used to use Wolno a lot, which is a half-speed piano plug in from Felt Instruments. All of their stuff is really strange and beautiful. I have loads of saved effects chains that I use constantly, created by myself, so I always think about these like my main plugins in a way. I have one called Tom-Filter-1 which is a high-pass filter, a delay (with low delay times on the left and right), and a short decay reverb. I often use this on breakdowns on loads of tracks at once. It almost sounds like the song is playing in a hallway or something."

> "WHEN I FEEL MY CREATIVITY IS WANING, I'LL CREATE AMBIENT LOOPS AND JUST ZONE OUT"

**What DAW are you using, and why?**

"Ableton, because when I first bought a MIDI keyboard it came with a free copy of Ableton Lite, which I then proceeded to use for a long time before upgrading. When I made the switch from FL Studio 9 to Ableton Lite I could only use eight tracks. So I used to make as much as I could on eight tracks, then bounce the whole song and load it into track one as audio, and write over the top. Then bounce and do it again over and over until I had nothing more to add.

"It was so inefficient, but I didn't know any other method, and also kinda didn't realise you could have loads of tracks. When I finally upgraded to Ableton Live 9 years later, the ability to have unlimited tracks blew my mind and seriously led to a creative revelation for me. That method probably had a huge impact on the way I make music today."

**What gear helped make *Please Keep Shimmering* in particular?**

"The Korg Arp Odyssey and the Yamaha Reface DX. The Arp has been a really important part of the way I make music for years. I love making arpeggio patterns, and I find the Arp is amazing for that. It's also great for these heavy anthemic droney bass sounds, which I love making these days. You can hear it being used for that type of sound on *Soared Straight Through Me* or *Achemore*."

**We can hear field recordings integrated into some tracks on *Please Keep Shimmering*. Are these your own?**

"I have a small bank of field recordings that I've built out over the years. The recordings in the track *October* were from Leeds. I used to go to the canal early in the morning in spring and record the water and ducks etc, for a project. I also overlaid a recording of a crank turning when someone was adjusting locks in summer. The recordings at the end of *Keep Shimmering* I took in Tokyo (I used these in my first album too), and the recordings in *Blue Sky Revival* are a friend outside a pub in London."

**We also wanted to ask about the vocal samples on tracks like *Soared Straight Through Me*?**

"They were sampled from an acapella cover I had on my computer. My process is quite patchwork-y and all over the place so I'll often draw random audio files from my computer into projects and manipulate, warp, abandon, and pick up months later. I like doing that as I just end up with weirder results.

"Elsewhere on the album I've sampled stuff from films. There's a great film scene where the protagonist is speaking to themselves in the mirror, and I've manipulated this for breathing and gasping sounds. Some of the vocals on *Partner* are actually my own too. In my music, vocals aren't really used as a front running element of any song. More of a decorative sprinkle to add to the overall impact of the piece."

**There's a hazy, dreamlike sound to the record – how did you achieve that?**

"I don't feel like there is anything I'm purposefully doing. Occasionally when I feel my creativity is waning, I'll create ambient loops and just zone out for ages. Sometimes I'll meditate. Then, down the line I'll always resample these loops by dragging and dropping them into more conventional projects."

**If you could collaborate with any artist, living or dead, who would it be?**

"Chino Moreno of Deftones."

**What's next?**

"I've got one record lined up and a collaborative record with Louf on our label Valby Rotary." FM

**WANT TO KNOW MORE?**

Tom VR's latest album, *Please Keep Shimmering*, is out now on All My Thoughts

# Generate new musical ideas in Ableton Live

## How can we take short loops and keep them interesting for longer periods of time?

Loops are great. Working with loops gives you a quick way to create music, or form the foundations for a track, but loops can get boring quickly. Is there an easy way to keep short loops interesting every time?

Ableton Live's Beat Repeat is an often overlooked tool, probably because it can sometimes create predictable results. With a little tweaking, however, we can turn it into a powerful tool for creating variation and interest in loops.

We'll make use of Beat Repeat's Chance control to automatically slice the beat up based on a set probability, so that each cycle of the loop ends up being slightly different. We'll also set up some control over how often the effect will automatically rearrange the beat.

We'll start by configuring some basic values for the Beat Repeat's controls then create multiple copies to affect different parts of the bar. We'll group everything into a Rack and map a Macro control to adjust the probability of slices occurring, then save it all as a preset to reuse in future sessions.

This technique works particularly well for drums, but can work equally well on all kinds of material.

**WANT TO KNOW MORE?**

Tom Glendinning has worked as a session musician, sound engineer, sound designer, music producer, composer, and VJ. As an Ableton certified trainer he helps musicians to be more creative with Ableton Live. More at **elphnt.io/fm**

## 01

### Load Beat Repeat, adjust settings

**First, load Beat Repeat onto the track you want to affect. Set the Output Mode to Insert, Gate to 4/16, Grid to 1/6 and Chance to 50%. Make sure all of the other settings match the image.**

## 02

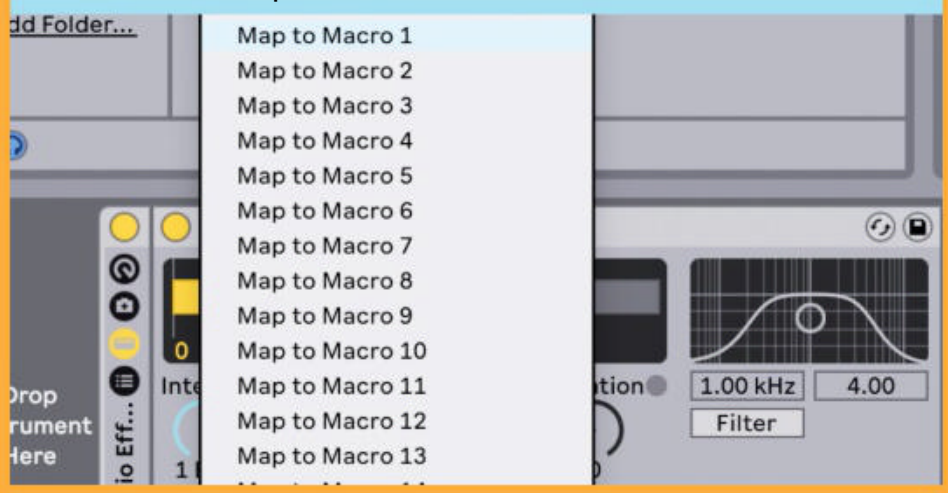
### Duplicate and adjust Offsets

Next, duplicate the Beat Repeat using CMD or CTRL + D to create four copies. Adjust the Offset control of each Beat Repeat so that you have the first Beat Repeat's Offset set at 0, second at 4/16, third at 8/16 and fourth at 12/16.

## 03

### Create a Rack

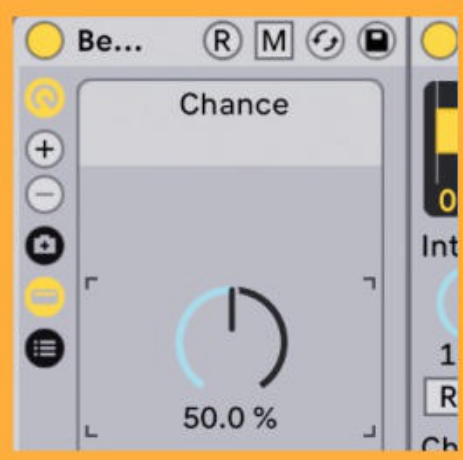
If you listen to your audio now, the effect should already be doing its thing, but let's give ourselves some control. Select all four devices, then press CMD or CTRL + G to group them to a Rack. Right-click on each Chance control and map to Macro 1.




## 04

### Save the Rack to reuse

**Use the Chance Macro to adjust how frequently slicing occurs. Set up Macros for other controls if you'd like, then click Save Preset to save your Rack. Experiment with adjusting things like the Gate and Grid controls to see what other results you can get.**



© Francoise Lamy

# Addictive TV
# Orchestra of Samples

OSi, 2017

A cast of hundreds, providing thousands of hours of improvised music, recorded across every far-flung region of the world, over seven years. This was the start of Addictive TV's *Orchestra of Samples* album.

This audio/visual collective made it their task to find, befriend and record musicians across the globe. Some in studios, rooftops, parks, hotel rooms, or even makeshift spaces on desert roads.

The players improvised as they were filmed, largely soloing to tracks that didn't exist yet, to feature alongside other artists that hadn't yet been recruited either.

Some were famous (Grammy winners and members of Stereolab and Motörhead somehow getting swept up in it all). But many, with more invisible names, were playing instruments unique to them.

"Some of these instruments are in need of preservation. In some cases there are only a handful of musicians left playing them," says founding member Graham Daniels, who, alongside manager Francoise Lamy and producer Stephen 'Morf' Hollands, maintain the project. Working with favours, arts grants, and sheer will, they began joining the musical dots, capturing the most beautiful and rare instruments and players for prosperity.

"It was about bringing these different types of instruments together and connecting cultures," says Daniels. "At the start of creating a track you would never know who or what instruments would end up working together. It's like doing a jigsaw puzzle without knowing what the picture looks like."

Like Alan Lomax before them, the ethnomusicologist who archived 20th century folk songs (later sampled by Moby), Addictive TV captured these sounds so they would never be forgotten, asking those taking part to jam for them, with little interference, and minimal direction.

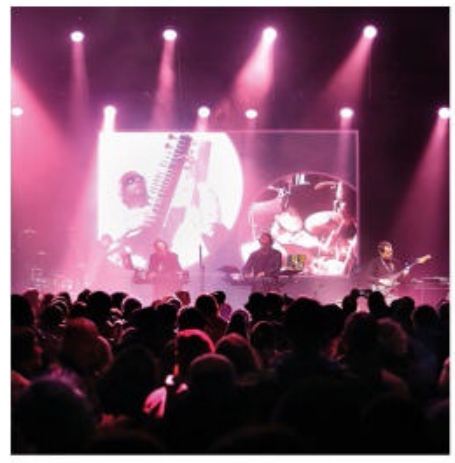
"A lot of these recordings are completely blind improvisations," says Hollands. "The musicians didn't have a tempo or pitch. So, it's completely random what they'll come up with."

Some of these instruments were never designed to be played together in Western scales, for example. But, they archived each recording, knowing one day it would weave into the next ever-evolving piece of music.

"We have enormous amounts of recordings still stored away," says Daniels. "It's an amazing cookie jar of potential samples to be dipped into."

Words by Roy Spencer

# Track by track with **Graham Daniels**



© Francoise Lamy

**Ethno-sampling mavericks Addictive TV will be performing a string of live dates from March, including Sheffield University in June, and the new Rhythms Sans Frontières festival at the start of July in Suffolk. They also recently released *Pararatronic* as part of a British Council initiative in East Asia working with Indonesian artist, Kuntari. And last year released three new follow-up singles to the album from their Orchestra of Samples project. They've also just got the go-ahead to work on a research project for the UCL Public Art scheme.**

## Orchestra Of Samples

"As the first track on the album, we wanted to create something purely sampled from our field recordings that would introduce the project. So, no beats, no electronics – just samples from all we'd recorded at that point. We sifted through terrabytes of material, matching up samples from France, the UK, Tunisia, Senegal in West Africa. But, also from as far afield as the tiny Kingdom of Bhutan up in the Himalayas, where we'd recorded a group of local village women singing on top of a mountain, outside a monastery where we were staying!

"The tama drum sample on the track we recorded in Senegal with Samba Diop, who's been world music star Baaba Maal's tama drummer for 20 years. We were playing at a festival in Dakar and saw their show and loving what he was doing. I just walked up to him at the end. Samba later did all the tama drumming on Marvel's *Black Panther*."

## Hangman

"This takes its name from the 'UFO-shaped' metal hang drum, which drives the track. We were performing in Madrid and took the opportunity to record percussionist Daniel Salorio, from Spanish group Livika, improvising with different instruments, including hang drum.

"We just heard something other-worldly in his playing and realised it was definitely one sample, and worked on a track pretty much straightaway. We'd found the hang worked beautifully with samples of French acapella band Ommm we'd recorded in Paris, and with gombri recorded in Tunisia, which is an ancient stringed instrument often considered the first ever bass.

"We've since performed Orchestra of Samples live at different times with both Ommm and Daniel and his Livika bandmates."

## Unity Through Music

"We had a cut-together riff from sampling a mandolin-sounding Romanian cobza, that we recorded in snowy Bucharest with folk musician Florin Iordan some years earlier, and we found it just worked perfectly with cello loops we'd recorded with French artist Gatha in Bordeaux.

"Once we'd got the structure, other samples just fell into place, particularly the Egyptian ney flute that we'd recorded in Cairo with musician Mohammed Antar – In fact, we were there during the 2011 revolution when no one was going, but we wanted to show support for artists we knew there and who wanted to bring us over.

"We had the instrumental version of this track for a couple of years before being introduced to the mega-talented rapper Joe Publik, whose voice really crystallised the whole piece. And when adding the vocals we included a short sample of Moroccan rapper Si Simo that we recorded in Agadir.

"An interesting fact: Lucas Fox, whose drumming is sampled across the whole track, is actually Motörhead's original drummer!"

© Francoise Lamy

"The most work that goes on with the samples is audio restoration for the outdoor recordings," says Stephen Hollands. "What with occasional ambient noise in the backgrounds of a recording. So, you'd have to de-noise it, or de-reverb it, if, say, it was recorded in a hotel room.

"We usually use iZotope RX; the suite has a lot of restoration tools and I'd recommend it, it's pretty much a one-stop shop for repairing."

## Eastern Baschet

"It's pronounced 'bash shay' and the name comes from the evocative-sounding Cristal Baschet – an instrument of glass rods played with wet fingers invented in the 1950s by French brothers Pierre and Bernard Baschet. Both have now sadly passed away, reaching their late '90s.

"The main string melody, played by Korkutalp Bilgin, was created from sampling tanbur – the long-necked, stringed instrument found in Turkey, the Middle East and parts of Asia.

"We recorded on the roof of Bahçesehir University in Istanbul when we played at the amazing Club Ghetto there.

"A slightly odd start to the track, but we decided to leave a bit of myself giving direction to Korkutalp, to show listeners how we made these improvised field recordings.

"The track also features samples of violin by Ira Bareli and Japanese koto – a large, stringed instrument – played by Etsuko Chida."

## Kora Borealis

"Completely daft, but fun name for a track, and word-play on the Aurora Borealis, as the main instrument sampled in the track is a kora, the beautiful West-African harp-like instrument which we recorded outdoors in Senegal way back in 2010, in fact by placing a mic inside the instrument!

"We recorded in a small village called Ndem, east of Dakar, where we'd recorded Senegalese rap star Matador, whose vocals are on the track. It's a quirky one, but captures the amazing vibes we felt in Senegal.

"Backing vocals are once again sampled from Ommm, and the drums are from a session with renowned French drummer Cyril Atef in his Paris studio. He worked on the *Twilight* soundtracks and is half of award-winning French act Bumcello."

## Beachcoma

"You might recognise the voice on this track, as vocals are sung by

Lætitia Sadier – lead singer of Stereolab. There's such a beautiful, velvety quality to her voice.

"We created the main riff from sampling Latin Grammy winner Mazinho Quevedo, who's a Brazilian guitarist we recorded in a São Paulo park when we played Brazil.

"We found a short sample that was in key and tempo with both the Cristal Baschet and a large children's choir we'd recorded in France.

"They added an ethereal, dream-like quality to the track. Also samples we recorded of tablas, piano, fretless guitar, trumpet-like cornet, plus clarinet and acoustic guitar."

## Rapscallion

"We actually created this track for a special performance in Berwick-upon-Tweed, where we recorded and performed with Scottish fiddle player Shona Mooney, who'd won BBC Young Musician of the Year. And, later sampling her, we surprisingly found some loops working perfectly with French rappers Gaël Faye and Edgar Sekloka that we'd recorded, without any backing track, the year before, and their timing was perfect.

"We also added bodhran drum from Callum Younger and border-pipes from Matt Seattle, both recorded in the same sessions as Shona, plus heavy rhythm strumming from sampling a dombyra – a deep-sounding, two-stringed lute-type instrument we recorded in Almaty, Kazakhstan with Maksat Khasanov."

## Sundown (That's A Fact)

"One of those 'magic moments' you often hear bands speak about. We found beautiful flute samples from Mathieu Sérot that fit perfectly with sampled acoustic guitar, improvised by Alejandro de Valera.

"Alejandro usually performs with fretless guitars he designs. It actually took another two years until we added vocals, which were written and sung by the amazing Tokyo-based American poet, singer, rapper and musician Marcellus Nealy, who spent years performing with the Japanese pop group Dreams Come True. We like to include it in our live shows."

## The American

"Our startpoint was with the melancholic lyrical recordings of Theo Hakola, the brilliant American singer/songwriter who's toured supporting the likes of Nick Cave; we were introduced to Theo by a venue where we had a year-long residency.

"Looking to create an equally haunting melody, we created a piano riff from sampling a session with Chris Birkett, the producer behind artists including Sinéad O'Connor and who now works more in world music.

"The piano and Theo's vocals worked eerily well, even more so after adding the voice of Brazilian artist Andréa dos Santos, who we recorded in a bamboo forest near Brasília.

"She sang native tribal songs, evoking memories of indigenous peoples of the Americas; really counterpointing Theo's lyrics."

## Sitar Hero

"We really wanted to create a track based around a sitar. We'd been introduced to blind sitar virtuoso Baluji Shrivastav, who's since been awarded an OBE, and heads the Inner Vision Orchestra, the UK's only ensemble of blind musicians.

"We recorded a session with him at his home in London, later sampling his improvisations, picking out a few choice cuts and splicing them together to create the melody.

"We also really liked the idea of blending synths with an Indian tempura drone. The track also features samples from improvised recordings of tabla player Kuljit Bhamra MBE and French singer Aurélie 'Lilly' Jung, who, as it happens, later became a contestant on the French version of *The Voice*!"

## Herbal Haze

"This last track is a bit of a journey with a 'rock opera' vibe and the first track we worked on for the album. It includes more unconventional samples. From the car-exhaust-pipe-beatings of eco-band *Patubatê* (Brazil's answer to *Stomp*) and Israeli instrumental vocalist Nir Yaniv to Italian kids-toy-circuit-bender Lorenzo Mos and Mexican instrument-building musician Humberto Alvarez, who's also an expert in Aztec music.

"The track opens with an Indian stringed swarmandal-tanpura and by the end has included all of the above, plus Moroccan metal 'castanet-like' Arabic qraqebs, flute and a reco-reco – a form of Brazilian metal-scraper percussion." FM

## In the studio with Graham Daniels

**"The album was literally recorded in hundreds of places. From top-end studios to field recordings where everything had to be portable. As well as travelling with our performance kit to gigs, we'd bring a camera, mics, recorder and tripod in small bags.**

**"We mainly used a Tascam DR-40 to record audio, although when we started the project in 2009, mics were plugged directly into a Sony HVR-1 camera with XLR leads, recording A/V to digital tape.**

**"For the album, myself and Mark [Vidler, former band member] worked with Logic, keeping the samples as recorded. There was no re-keying or pitching. If a sample started well, but then the rest of the notes didn't work, we'd lose it, and search for a better sample.**

**"The album was mixed in Pro Tools by Jérôme Caron in Paris. He brought a real unifying and timeless feel, wanting to use classic 808 sounds and keep it simple."**

### WANT TO KNOW MORE?

For extra context, their enormous blog, and new material, visit: **orchestraofsamples.com**

## LIKE IT? TRY THESE...

### Two Culture Clash
Two Culture Clash

**Another album perfectly pitting musical styles against each other. This time, reggae stars get re-rubbed by the club kids, to great effect.**

ADD THESE TO YOUR PLAYLIST:
'How Do You Love?', '... And Dance', 'Knock Knock'

### Malcolm McLaren
Duck Rock

**Trailblazing '87 mash-up of hip-hop scratching, double dutch rhymes, and global grooves.**

ADD THESE TO YOUR PLAYLIST:
'Buffalo Gals', 'Double Dutch', 'Soweto'

### Amon Tobin
Foley Room

**From roaring tigers to neighbours singing in the bath, it all got captured on Amon's mic and turned into a selection of samples.**

ADD THESE TO YOUR PLAYLIST:
'Bloodstone', 'Esther's', 'Big Furry Head'

### Herbert
Around The House

**Truly "house music", as the genius producer records anything that makes a sound in his childhood home, and pops a beat on it.**

ADD THESE TO YOUR PLAYLIST:
'In The Kitchen', 'Bedroom Jazz', 'Around The House'

### Various
Sounds Of The South

**Folk and country blues compiled in 1960 by folklorist and musicologist, Alan Lomax. Moby and Kanye dug deep into this one.**

ADD THESE TO YOUR PLAYLIST:
'Baptizing Scene', 'Trouble So Hard', 'Keep Your Lamps Trimmed And Burning'

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# Raum
# Daughter

## Yellowelectric

Raum is the collaborative project between experimental ambient musician, Liz Harris, known for her dream-like, emotionally raw work as Grouper and Root Strata label founder and ambient visionary, Jefre-Cantu Ledesma. Anyone familiar with both artists work will find it no surprise that their collaborative work as Raum, whose only previous album was 2013's stunning *Event of Your Leaving*, is so affecting, personal and intense. Almost a decade on from the last Raum album, *Daughter* channels the same energy, but amplifying those feelings even further to create an achingly beautiful, melancholic and ethereal masterpiece. Elements of ambient, abstract, dream pop, classical and drone weave in and around each other as the duo create a wonderfully rich and intense soundscape that feels as much visual and physical as it does auditory. Beautifully sculpted piano loops glide over hazy guitar sketches and muted melodies, all trying to penetrate through the haze of fog, reverb and distortion that encases the entire record like a dimmed, rising sun. The wispy drones and fragmented, amorphous structures conjure the distinct feeling of vulnerability both echoed and challenged by Harris' ethereal vocals. Added to that are wonderfully intimate field recordings, like birds, distorted human voices, vinyl cackle and the whirring of the motion from a film projector. Each track passes seamlessly to the next, drifting without pause or momentum. The result is a record that feels as haunting as it is meditative and reflective. *Daughter* is both artists at their distinctive and devastating best. ***Tom Jones***

**ADD THESE TO YOUR PLAYLIST:**

Walk Together, Sunlight Crying, Lullaby

**10/10**

ALBUM OF THE MONTH

# Pastor Champion
## I Just Want To Be a Good Man
### Luaka Bop

David Byrne's New York-based imprint Luaka Bop got much more than they bargained for when researching *The Time for Peace Is Now: Gospel Music About Us*. Whilst trawling through footage, they came across the wonderful and raw outsider gospel from touring preacher, carpenter and father of four, Pastor Champion. So enamoured were they, that Luaka Bop started out on an album project with the pastor, by now in his 70s and having never previously released anything. *I Just Want To Be a Good Man* was recorded on a two-track Nagra reel-to-reel, entirely analogue, in the style of traditional gospel recordings. That authenticity is matched by Pastor Champion's distinctive vocals and stripped back guitar. Simple but effective rhythms bring the gospel spirit to life, adding to the sense of passion and community that feels the record. A perfect snapshot of the unrecognised talent of a fascinating man, *I Just Want To Be a Good Man* will sadly only hit the shelves after the Pastor has passed away, but now his wonderful music will live on forever.

***Tom Jones***

**ADD THESE TO YOUR PLAYLIST:**

Talk To God, Who Do Men Say I Am?, Storm of Life (Stand By Me)

**8/10**

# Glass Museum
## Reflet
### Sdban Ultra

Two years on from their acclaimed *Reykjavik* album, Belgian electronic jazz duo Glass Museum's shimmering new album, *Reflet,* finds keyboardist Antoine Flipo and drummer Martin Grégoire blur the lines of genres, time and locations, building a fascinating soundscape that relishes cross-pollination and dialogue between separate worlds. Organic instruments blend seamlessly with electronic beats, Eastern keys interplay with more western strong structures and modern production techniques mingle with traditional, natural sounds. The swirling soundscape takes in elements of jazz, techno, breakbeat, eastern, pop and neo-classical with consummate ease and the tempo ranges from laidback to energetic. It's these seemingly disparate styles that make *Reflet* so unpredictable, so absorbing and so immersive. Jangling piano keys jostle for position among shimmering synths, punching drums and club-like swathes of bass. Then just when you think it's peaked, *Reflet* goes and finds another way to thrill its listeners. ***Tom Jones***

**ADD THESE TO YOUR PLAYLIST:**

Caillebotis, Ellipse, Opal Sequences

**8/10**

RECOMMENDED

© Earl Davis

# Raw Poetic
## Laminated Skies
### Def Pressé

Two years on from his last record, North Virginian rapper, singer and producer Jason Moore is back with his brilliant, sprawling and free-flowing sixth studio album as Raw Poetic. Teaming up with friend and long time collaborator, Earl Davis aka Damu the Fudgemunk on production and Pat "P" Fritz on guitar and Luke Stewart on bass, *Laminated Skies* is a bristling melting pot of styles that infects the head as much as the feet. Drawing on a multitude of genres, hip-hop occupies the centre of the Venn diagram of the record, without ever being the dominant style. Elements of jazz, soul, beat constructor and leftfield-funk merge, much like with hip-hop, to create something that feels altogether indefinable. Damu's quality production brings these styles together subtley, creating a simmering undercurrent of rhythm and bass that sweeps us up and along for the journey. Vibraphone, melodica and kalimba join strings, programmed drums and scratching and synths in a beautiful and fascinating concoction of times, genres and moods. Raw Poetic's effortlessly knowing voice and intelligent raps give the record its modern, on-point attitude. Despite its varied and ambitious styles, *Laminated Skies* manages to stay fluent, laidback, natural and easy going. That too, is the perfect description of the artist himself. Enjoy the flow. ***Tom Jones***

**ADD THESE TO YOUR PLAYLIST:**

Chewing Gum, Intertwined, Sunny Water

**9/10**

# IS IT TIME TO RETHINK YOUR DAW?

# Let's survey the DAW landscape of 2022 and ask if it's time to reevaluate your chosen software

For anybody making music using a computer, a digital audio workstation is a vital bit of kit. It's the literal centrepiece of your setup – the thing into which everything else flows, whether that be audio recorded from hardware or mics, hosted plugins or imported samples. While you might outsource creative tasks to real world instruments and third-party tools, the ultimate decisions are made in your DAW – it's the point at which arrangements come together, mixes are finalised and exports are made.

Just like musicians, no two DAWs are going to work exactly the same way. Sure, there are established formats that exist across most – if not all – applications, but even between the most similar-looking DAWs there will be small differences in functionality, implementation and interface that will affect the way users interact with it.

## THE CASE FOR MAKING A CHANGE...

Understandably, producers tend to stick with their chosen DAW; these are deep and complex systems, and since they're crucial to a fluid workflow, it makes sense to learn a single application and stay with it. As a result, DAW-loyalty can become somewhat tribal. We end up with preconceived notions about what certains DAWs can and can't do, or who they're specifically for. Ableton Live is a ubiquitous choice among electronic musicians, but Logic purists will tell you it sounds inferior (a definite myth). FL Studio is beloved by a wide array of musicians, but unfairly maligned by users of other DAWs as basic and entry level – despite its obvious depth and versatility. Pro Tools has long been seen as a must for pro studios recording a band, but are its recording abilities really above and beyond its rivals?

It's a widely accepted fact that the 'best' DAW is the one that's right for you because it suits your workflow. To an extent though, it's actually more accurate to say that your DAW is right for you because of how much it's shaped and influenced the way you work.

Think about it – when you first started making music, we doubt you began with a fully formed idea of exactly how you were going to do everything and chose a software application based on those precise needs. More likely, you played around with one or more tools based on a hunch, or recommendation, and your ways of working developed as you learned and became more comfortable with it.

This is exactly why, much of the time, it's by far easiest to stick to the DAW you know. It can be incredibly jarring trying to figure out how to replicate your existing workflow in a new digital workspace. Users jumping from, say, Cubase to Live, or FL Studio to Pro Tools, would likely see their music-making grind to a halt as they have to relearn certain processes from the ground up.

The flip side of this, however, is how creatively fruitful it can be to embrace the unfamiliar. Processes such as moving from the linear timeline of Cubase to the modular, clip-centric approach of Bitwig, or Logic's slick devices to Reason's virtual rack, could be just what you need to shake up your ideas and inspire you to move out of your comfort zone.

This issue we're surveying the 2022 DAW landscape with the aim of challenging a few of the preset ideas we have about major DAWs. We're not here to crown a 'best' DAW, or tell you that you should completely rip up your current workflow and start again. But perhaps we can inspire you to try a new 'second DAW', or reinvestigate a workspace you might have previously written off as irrelevant to your music making.

# APPLE LOGIC PRO

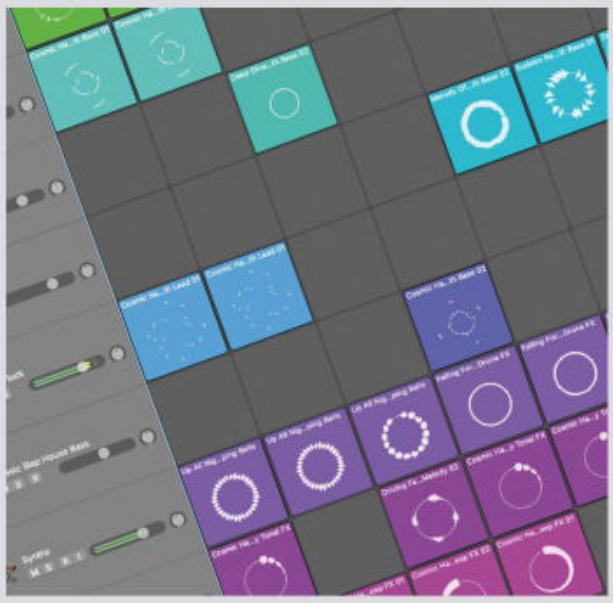
## All-round hero?

**Jono Buchanan** makes the case for Logic…

It's a good time to be a Logic Pro X user. Significant updates arrived via version 10.5 in the summer of 2019, to add to an already impressive feature set. Remember, Logic contains its own comprehensive range of instruments and whilst some are a little longer in the tooth these days, they're still there to ensure compatibility with older projects. Add to that 63 native effects, a 100GB library of Apple Loops, capacity for projects of over 1000 tracks, all of the routing options you could shake a stick at, advanced tools for audio editing, working to picture and, of course, optimisation for Apple's current range of computers, running the all-conquering M1 chip. In short, there's power and performance to burn. Irrespective of the musical genres you favour, Logic has features designed to maximise your creativity.

## What we want...

Recent updates to Logic Pro X have ticked a number of the most urgent features that users were asking for off the list. Dedicated Step Sequencing and Live Loops (to allow you to build tracks from Ableton-like MIDI and audio clips) were both frequent requests. So too was the update to the EXS24 Sampler into both deeper Sampler and Quick-Sampler workflows. Different users would request different developments, of course, but the ability for a Logic Pro session to host only one movie file per project is certainly a frustration for media composers. Hosting multiple films at once? Yes please.



Of course, there's no accounting for taste or personal preference. It could be that you're drawn to your current DAW because of the way it looks, or because your other producer friends use it or because you've never had a chance to try out of one its rivals. But irrespective of the musical styles you favour, Logic Pro X probably packs more of a punch than any other DAW. You're a beats producer? Step Sequencing, Drum Machine Designer, two inbuilt samplers for sound shaping, another dedicated native drum machine and the Drummer instrument provide masses of ammunition to sculpt grooves.

### ALL IN

You're a songwriter? More native, great-sounding plugins than any other DAW, gigabytes of drag-and-drop Apple Loops to build a vibe in the studio quickly and arranging tools to let you build the shape of your song with just a few button clicks. You're a media composer? Movie import and easy sync-to-picture tools, as well as advanced mixer routing and template creation to ensure the sounds you need are under your fingers in seconds. You're a producer or mix engineer? Logic's plugins offer extensive tone, dynamics and space-designing tools to craft and shape productions in any genre.

### LOOP THE LOOP

And in recent years, Logic's workflow has expanded to allow Live Loops, inspired by Ableton, to let you build tracks in a non-linear way, to allow you to explore combinations of sounds, patterns and track sections, even throwing in some useful real-time track-mangling effects for good measure, meaning you could even DJ with this software. No matter what music you make, Logic really does have you covered.

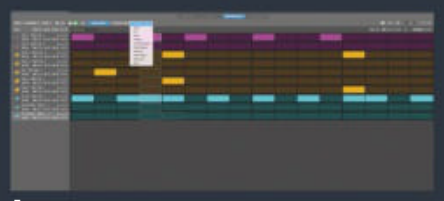
# 6 power tips that give added value to your Logic experience

## Improved sampling

1 Interaction between audio files and Logic's sampler options are much tighter these days. Take any audio file, either from the Apple Loop browser or anywhere on your hard drive and you can drag and drop it into Logic's Main Page, where a new Audio Track will be created to accommodate it. It gets better, though. Drag that audio file across the main track list and you'll be given the option to 'drop it' directly into Logic's samplers, or Alchemy, ready for it to be trigger-able and editable super quickly. You can even decide which of the sampler's algorithms should decode the source file.

## DMD

2 Logic's Drum Machine Designer offers an amazingly comprehensive interface through which to accommodate drum samples. You can start by loading any of the preset kits from the Library but swapping out kit pieces is easy, either by loading these directly from the Browser, or dragging and dropping replacement sounds. Better still, if you'd prefer to generate individual kit elements electronically, the Drum Synth engine can provide 808-style Kicks, snappy snares and a whole lot more besides. If you've ever worked with NI's Battery 4, you'll understand DMD in no time; it's straightforward, deep and powerful all at once.



## In sequence

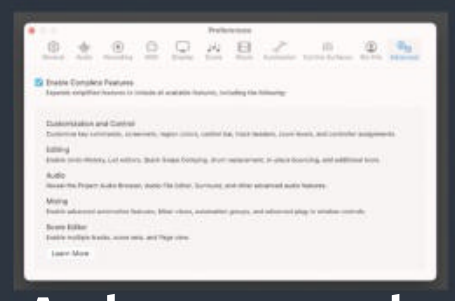
3 Logic's Step Sequencer packs an amazing amount into a simple-to-use interface. Create a Pattern Sequence for a pitched or rhythmic instrument and then click in the slots to assign notes where you want them. But, within the Sequencer's menu, masses more options to alter playback lie in wait, to scratch any potential creative itch. Alter the direction of a sequencer lane's travel, adjust Velocity, create glitches with Note Repeat, randomise the chance that a step will play each time it cycles round and even change the length of each lane's pattern, so sequences can move in and out of order. They need never be the same thing twice.

## Drummer

4 The Drummer instrument continues to improve. Not only does it offer a broader selection of drummers (in a wider variety of styles) than ever before, the options to convert a Drummer region to MIDI for per-note editing neatly crosses the line between speed of programming and enhanced detail. But things get better still when you swap one of the acoustic drum kits for a Producer+ kit, which increases the individual kit piece options, as well as providing a deep and fully mapped virtual multitrack drum session.

## Flex Editing

5 Flex Editing is great for taking audio files with slightly wonky timing and correcting them, to Quantize or swing recordings or loops which aren't quite snapping to tempo. But there are hugely creative options here too, particularly if you have a taste for the unexpected. The Tempophone algorithm glitches audio beautifully when you pull transients early or late, providing a quick way to warp and mangle audio files of all descriptions. Here's your chance to turn a hip-hop beat into something which sounds like it's been lifted from a sci-fi disaster movie set in space.



## Advanced

6 Check you're experiencing the full range of Logic Pro X's features by ensuring that the complete set of Advanced Features is enabled. When you first load Logic, you choose from two 'modes', one stating that you've used Logic before and the other that you're graduating from GarageBand. With this second option, Logic keeps things simple, with a pared back feature set. Which is fine, until you want to edit audio or dive into the full range of Logic's extended features. Head to Logic Pro > Preferences > Advanced Tools and tick the whole lot.

# ABLETON LIVE

## Live is your entire workflow!

**Martin Delaney** makes the case for Live…

**No other DAW covers your full creative process as well as Live. It's true! Live can take you from building your first blocks of a new song – sampling, sound design, and programming – to building an arrangement, recording live tracks, editing and processing, mixing and mastering, all the way through to playing that same material in a live show using Push or your other favourite controller, maybe alongside a live band or other electronic artists… and you can close up the circle by recording everything from the set into Live as you perform. It's quite amazing that nothing else has come along to steal Ableton's crown after 20 years, but it just hasn't happened.**

For more than 20 years now, Ableton Live has been the go-to software for live performance, be it electronic music, live looping, bands, soloists – all of them. It achieved this status with a non-intimidating interface, and the play-time feel of the Session View, where jamming with samples and instruments reached a new peak. What started as a straightforward audio looping tool has evolved, adding MIDI, and integrated instrument devices such as Wavetable. Max For Live arrived to allow the design and sharing of customised MIDI and audio devices, and Push arrived in 2013, becoming the hardware controller that compelled others to raise their game. In early 2022, Live 11.1 arrived, adding full support for Apple M1 computers, and bringing yet more new features and workflow improvements. Whether touring or in the studio, Live is still the one to beat.

### ONE TO RULE THEM ALL

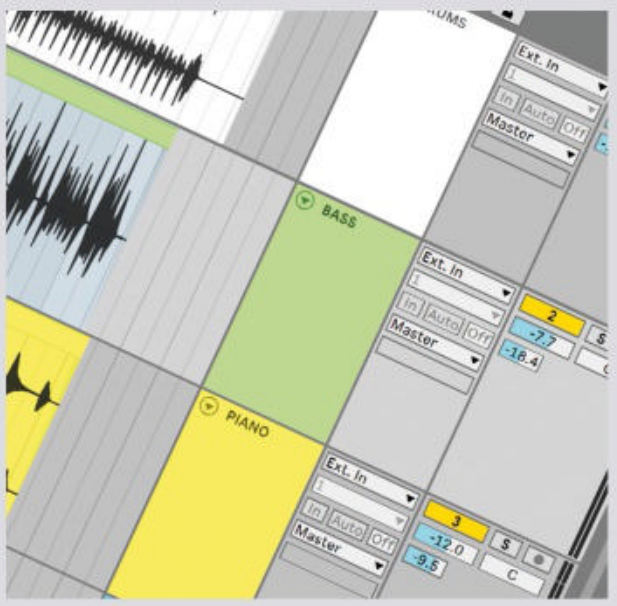
**Why bother building your arrangements in Logic or Cubase, when all you're going to do later is struggle to slice them out and import into Live for your gigs? Why not just do the whole thing in one DAW?! Sure, some effort may be required if you're moving over from another DAW, there will be issues to deal with and choices to make. But it's worth it. The truth is that newbies have an advantage here, because they don't have to forget what they already know, they can just jump in and experience the raw excitement that is the Session View feature.**

### PUSH THE ENVELOPE

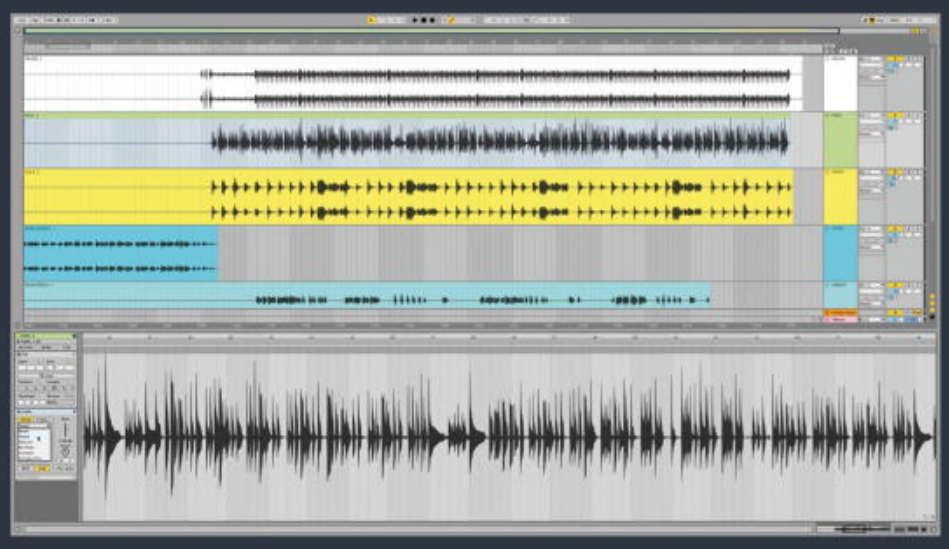
**Using Ableton's Push dedicated hardware controller is a unique experience too – no other DAW has an equivalent bit of hardware (do you remember the old Emagic Logic Control, built by Mackie?). Push will be with you through the journey, as you use the pads to play in your musical ideas, then to launch clips and scenes as you work out your structure, then to tweak device settings, then finally, to act as a mixer when you work on your track levels.**

# What we want...

Live is now capable of taking on almost any sonic task, but there's always room for more. If we were going to pick something from our wish list that hasn't been entirely realised at this point, we'd opt to see the proper mixer in both views. At the moment, it's available in full, with vertical faders and meters, in Session View, but in Arrangement it appears as an assortment of small boxes to the right of the timeline. Sure, we can exit fullscreen, open up a second window and see it there, but it's not quite so elegant as, say, Logic's key 'x' to see the mixer below the timeline.

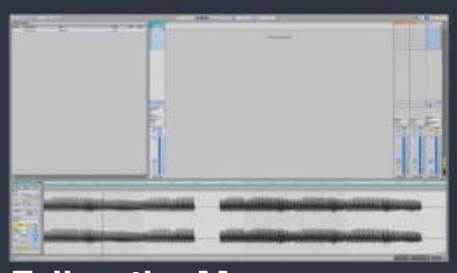


# 8 power tips to make you think twice about how you use Live



## Warped view

**1** Warp modes have a critical effect on the sound quality of your projects. Their names provide a clue as to how and when they should be used. You aren't restricted to those, though, you can use any warp mode on any material – but do it with some awareness of what the result will be. And if the material in question doesn't need to be stretched, looped, or corrected, don't be shy about turning warp off completely.



## Follow the Map

**2** For a real old-school sampling moment, click on an audio clip, enter MIDI Map Mode, and hold down two keys on your keyboard. You'll see the notes superimposed on the clip. Exit Map Mode and now you can launch the clip using any key in the range you defined. This is not like using Simpler, it's super-basic but kind of cool.

## Up, down, sideways

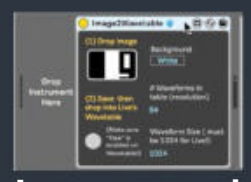
**3** When you map a control using Key Map Mode, or MIDI Map Mode, you'll see a list of assignments. With most parameters, you can type in values to define the lowest/highest possible positions, so instead of it going from 0-100%, say, it'll go from 40-80%. Trying inverting the values – so if one knob is mapped to two controls, moving the control sends one parameter up and the other down at once. Much more interesting.

## At a glance

**4** You don't need a dedicated separate mixer on the table, just an audio interface tucked away. Push shows track levels in real time and in colour, and allows you to access return tracks, plus see your In/Out View and choose different inputs and outputs, reflecting the names you assigned to them inside Live's preferences on your computer.

## Convolution Reverb

**5** The Max For Live Convolution Reverb is a thing of beauty. It includes a huge library of sounds… sometimes almost too many. But as with Wavetable, there's every option to take this into new realms by adding custom sounds of your own. You can drop any kind of sample in there, and make a reverb out of it – we love experimenting with everything from field recordings to speech samples.



## Image-conscious

**6** Live's Wavetable synth arrives with a library of wavetables, but you can also create custom wavetables, with a free Max For Live device called Image2Wavetable. Load the device into Live, then drop an image onto it, and export it as a wavetable, then drag that into the User area of Wavetable itself, and start playing. The complexity of the sounds will reflect the image.

## Macro mayhem

**7** Live gives us a few ways to enjoy randomisation; this is a new one. Load or create a rack, and making the most of the 16 macros (yay!), click Show/Hide Macro Variations, and click the Rand(om) button along the top. Each time, it'll make a new, saveable, combo of those macro settings.

## Shift gear

**8** Live 11.1 has a new pitchshifter effect called… wait for it… Shifter. That's one less third-party plugin to deal with! You can use it in the most straightforward way by simply shifting up or down in semitones and cents, but it also features MIDI sidechaining, where it'll change pitch according to incoming MIDI notes, whether they're coming from clips, Push, or a MIDI keyboard. This also responds to pitch bends from Push's touch strip.

# IMAGELINE FL STUDIO

The DAW previously known as FruityLoops has grown substantially over its 20+ year lifespan. In its early days, it was known for its ease of use. Compared to some of the dense and complex DAWs of the time, FruityLoops was incredibly approachable, falling into a space somewhere between music sequencer and video game.

This early simplicity has had a lasting effect on how FruityLoops – or FL Studio, as it's been known since 2003 – is seen by the wider world. Detractors have a tendency to label it as a plaything. If this was ever true, it's certainly not been the case for a while. In 2022, FL Studio is packed with functionality and a flexible crop of native instruments and effects.

What is true is that FL Studio is a little different in-use than some other DAWs. There's a heavy emphasis on pattern generation and sequencing track elements like building blocks. It's probably this approach that has given FL such a high standing in the US EDM and hip-hop worlds, where a loop-centric approach prevails.

Like Reason, FL Studio is doubly useful as a second DAW, as it can run as a VST or AU plugin, as well as a standalone program. Oh, and it's not just PC-only these days – since FL Studio 20 arrived in 2019, Mac users have been able to get in on the action too.

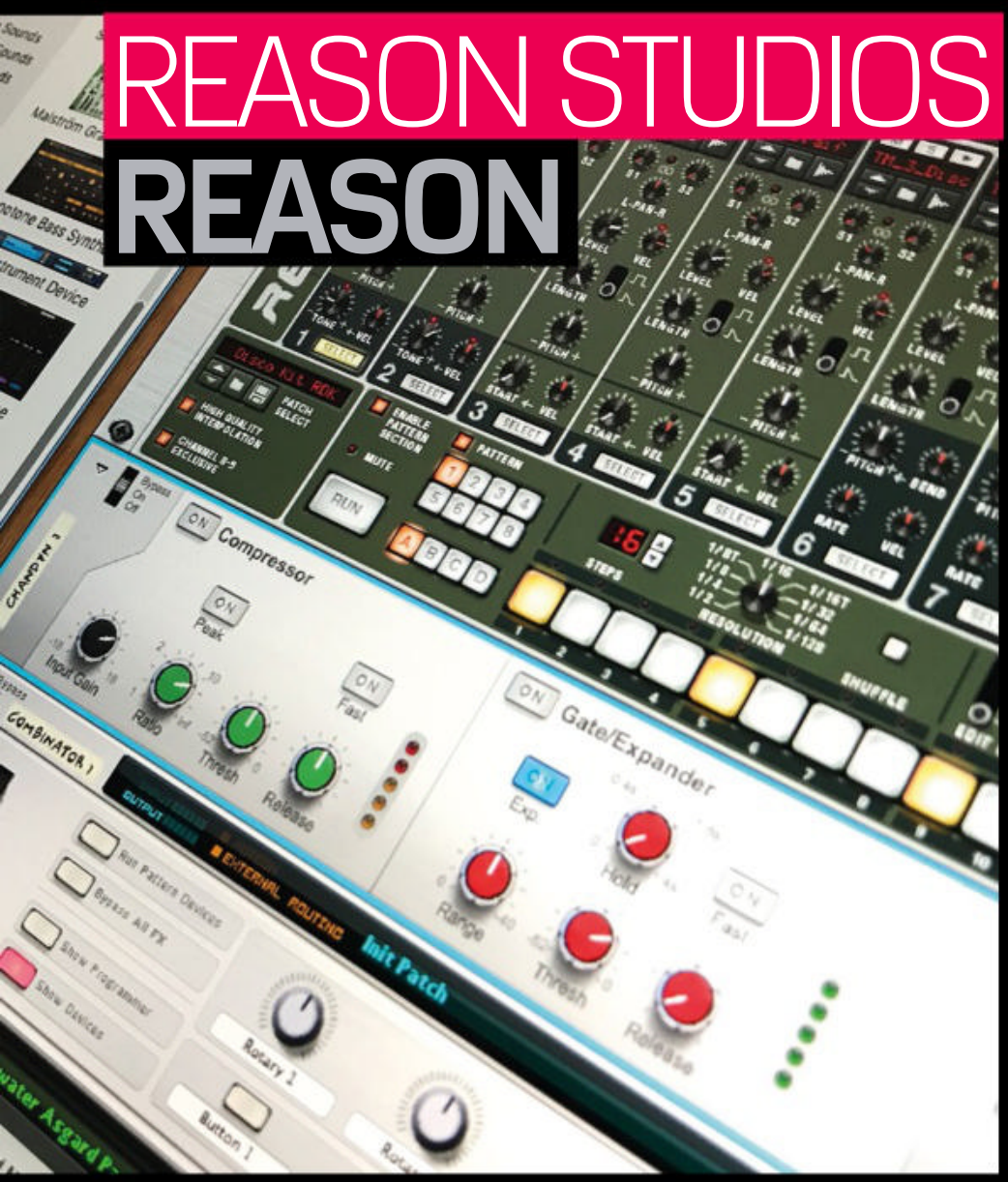
### WHY IT'S WORTH A TRY:

Two words – lifetime updates. If you buy a copy of FL Studio you have access to all future versions for life, which is undeniably a great deal. Aside from the value though, FL's distinctive approach to patterns and sequencing can encourage seasoned producers to work in new ways, especially for those coming from the likes of Cubase or Logic.

### DOWNSIDES:

While FL Studio's style of sequencing can be inspiring, it can also feel a touch limiting at times if you're used to multi-track recording or longform arrangements. Also, while there are some very solid onboard instruments and effects, others can feel a little dated and can have a heavy emphasis on presets.

# REASON STUDIOS REASON




The history of Reason is not dissimilar to that of FL Studio. Reason's roots lie in a software product that was as much about fun sequencing as deep music-making, in Reason's case, ReBirth – a 1997 cult classic softsynth combining emulations of TB-303s, a TR-808 and a TR-909.

Reason itself significantly expanded things while keeping the faux-hardware vibe, which remains key to Reason's personality to this day. The somewhat iconic Reason Rack presents the usual crop of instruments, effects and utilities as rack-mounted hardware units, complete with patchable rear panels.

Reason has expanded and developed considerably over the years. In 2009, then-developers Propellerhead (now Reason Studios) launched a companion product, Record, that added audio functionality. Record was eventually amalgamated into Reason itself.

For a long time, Reason was resistant to incorporating third-party plugins. This made sense in the early days, making Reason feel like a self-contained – and stable – studio-in-a-box. By the early 2010s it was starting to leave Reason lagging behind other DAWs though.

VST plugins can now be used in Reason. In fact, as of Reason 10, things have flipped on their head considerably as, not only can Reason host plugins, but it also runs as a plugin itself in a host DAW.

### WHY IT'S WORTH A TRY:

For our money, the latest version – Reason 12 – is the ultimate second DAW. As a standalone system it's solid, but we love having the Reason Rack as a plugin in other host DAWs. We're suckers for the virtual analogue style, and even the more dated of Reason's instruments and effects tend to be inspiring.

### DOWNSIDES:

You could argue that Reason's faux-hardware design is more style over substance, and perhaps isn't as flexible as the routing capabilities of Logic, Live or Bitwig. Plus, it's still fairly limited in what plugins can be used – Reason only hosts VST 2, and only when in standalone mode.

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# BITWIG

# BITWIG STUDIO

Bitwig Studio was born in Ableton Live's shadow – its original development team included numerous ex-Ableton employees, and aspects such as the clip launcher, Live-like EQs and stock FM synth bear a striking resemblance to the work of Bitwig's Berlin citymates.

The DAW has developed dramatically since it first arrived in 2014, leaning heavily into open and customisable features as well as pulling distinct influences from the modular synth scene.

In 2022, although similarities to Live remain, Bitwig Studio is no longer that fledgling DAW existing in the shade of a more established rival. The latest update, version 4.1, adds a suite of new Note Effects – MIDI processors that make creative use of chance, randomisation and creative retriggering tools. Arguably Bitwig's flagship feature is The Grid – essentially a full virtual modular system that sits somewhere on the spectrum between the virtual Eurorack design of VCV Rack and the simplified coding of Max.

Bitwig now operates a not-quite-subscription model of 'update plans', whereby a purchase grants the user updates for a 12-month period. This has led the development team to put less emphasis on big new versions and more on sneaking exciting features out as 'point' updates.

At the time of writing, Bitwig 4.2 is in Beta mode, which adds an expansive new sequencer-specific mode for The Grid and new effects.

### WHY IT'S WORTH A TRY:

For our money, Bitwig is the most creatively powerful DAW for electronic music making. The system of Modulators is a revelation – allowing users to add an unlimited amount of LFOs, controllers, envelopes and the like to any native device or third party plugin. The Grid is a rabbit hole we'd happily recommend diving into too.

### DOWNSIDES:

Bitwig's creative potential definitely comes at a cost of immediacy. Compared to the approachability of Ableton Live – which is still pretty deep itself – Bitwig's adaptive interface and multitude of routing options can take some time to fully master.

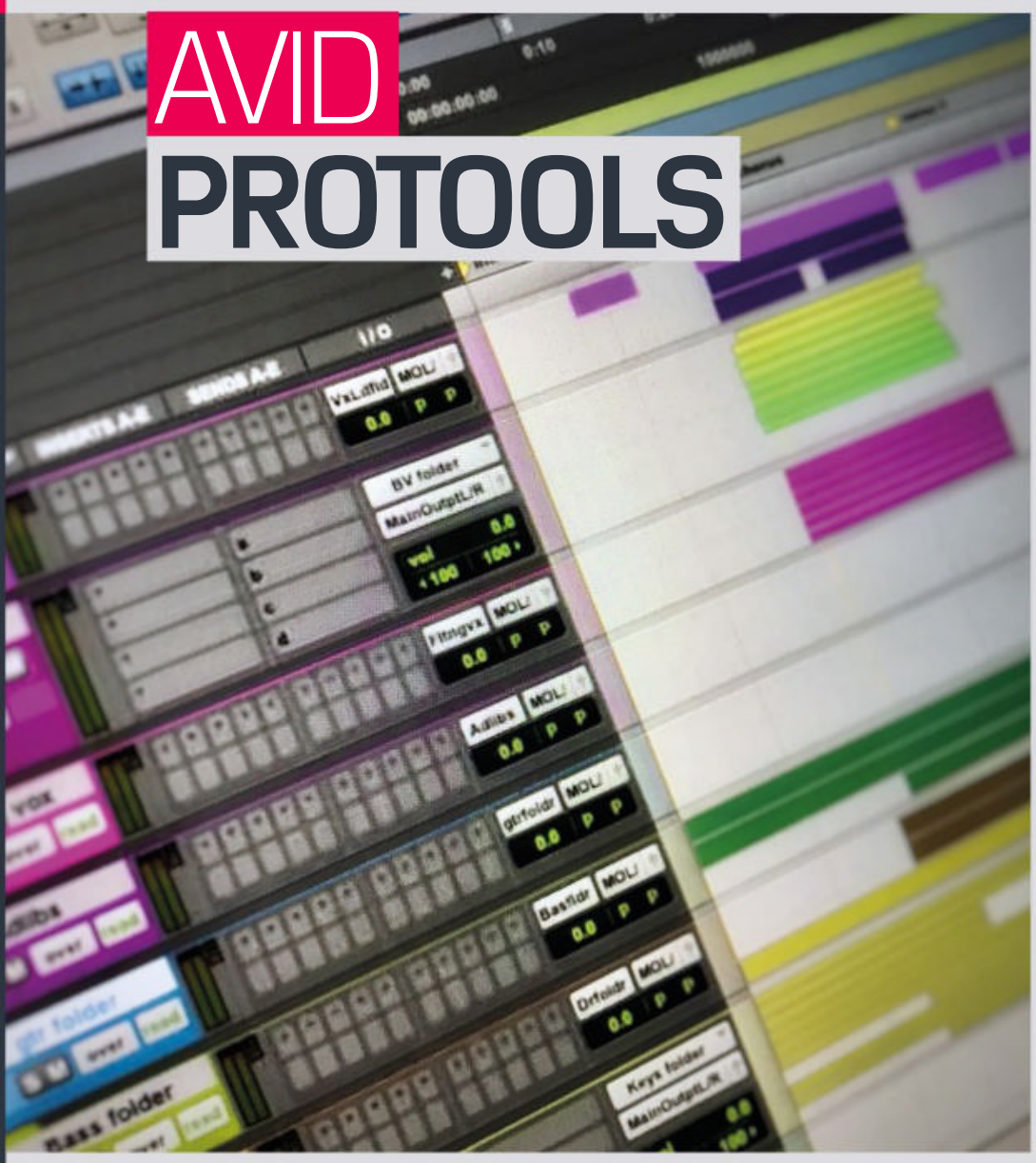
## ESSENTIAL TIP

### Hacking an effect send for the Grid

**One major omission from the current list of devices included in Bitwig's modular environment, The Grid, is any form of effect send. Yes, Poly Grid and FX Grid both have the usual nested effect chains attached to the devices themselves, and the available delay and all-pass tools can be used to fashion effects in The Grid itself. But if you want to send audio from your modular Grid – to a third party effect plugin, say – then route it back into the modular setup, there's no obvious way to do it.**

**Happily, users have found a workaround! Like a hardware modular system, Bitwig Studio lets users patch audio and modulation routings interchangeably. Bitwig's modulators can handle audio-rate signals, so you can route any audio in The Grid to a Modulator Out device, so it can be sent out of the device without the main Audio Out.**

**To create an effect send, place a DC Offset device in the Grid's Note Effects chain. Then route the Modulator Out's modulation to the DC parameter. This turns the modulation signal back into an audio one, and the Note Effect chain can be loaded with audio effect devices. To route audio back into The Grid, use an Audio Sidechain device and select the output of your final effect as the input. As this is a 'hack', not a proper feature, there are a few things to be aware of. Unlike other audio in Bitwig, the modulation routing isn't 4X oversampled and it's worth keeping an eye on your levels. The Modulator Out is mono too, so for stereo signals you'll need to use a Stereo Splitter, two Modulator Out devices routed to two DC Offsets.**



# AVID PROTOOLS

Pro Tools is a curious proposition these days. As its creators Avid rightly claim, it's legitimately still an industry standard in a sense. It's rare to find a large-scale studio or post production house not making use of Pro Tools. Elsewhere in the industry its dominance is considerably less apparent though, and Pro Tools has never really made an impact with the solo producer or electronic musician market.

The road to this point in Pro Tools' existence is a fairly winding one. It began life in the early '80s as Sound Designer, a tool for editing samples for hardware from the likes of E-MU, Akai and Roland. Sound Designer evolved into Sound Tools, a two-track digital recording system complete with outboard converters for editing DAT tracks.

The 1990s saw the introduction of Pro Tools, which for the first time featured multitrack digital recording, editing, DSP and mixing. Version 1 supported between 4 and 16 channels and was priced at a whopping $5,995.

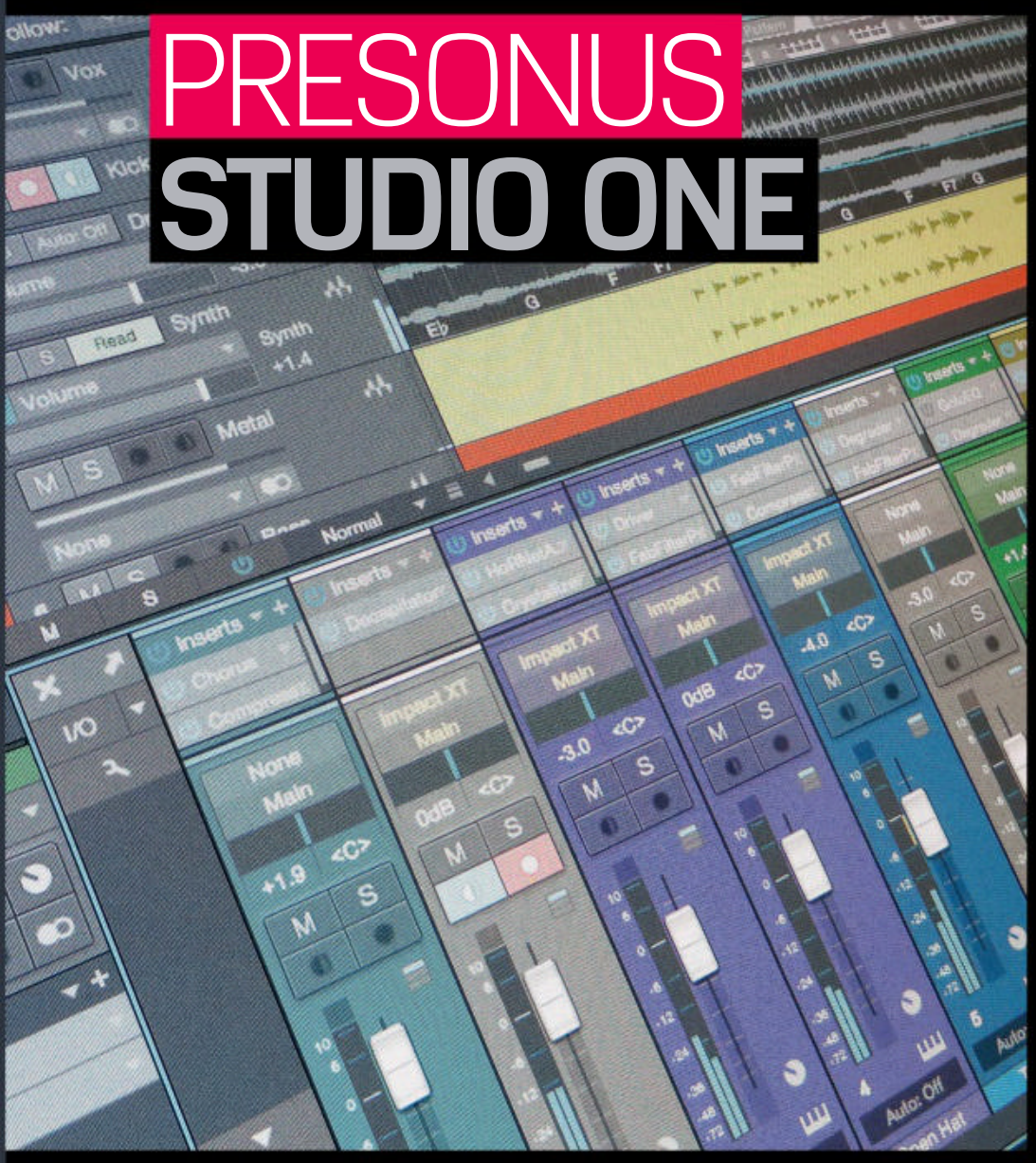
Throughout its history Pro Tools software has been associated with a variety of hardware systems. Typically, large studios will use compatible interfaces or DSP acceleration to run mammoth, complex projects. Setups like these can regularly run into four or five figure territory. Pro Tools is now sold on a subscription basis, with prices starting at £249 per year.

### WHY IT'S WORTH A TRY:

For post production or scoring there are numerous benefits. No other app is quite so deep when it comes to surround sound or immersive audio, and the ability to work with multiple video files is a must for many TV/film producers. It offers powerful cloud collaboration tools for working remotely with other studios too.

### DOWNSIDES:

A single year's subscription will set you back almost twice the cost of a copy of Logic, and you still don't own the DAW at the end. Unless you're working in a larger studio or want to dip in and out of a subscription for work, it's probably not worth it.



# PRESONUS STUDIO ONE

At a little over 12 years old and five version updates in, Studio One from US brand PreSonus, remains a relative newcomer in DAW terms. It's matured significantly over that time though and has been picking up a dedicated user base at a steady rate.

Where some other DAWs in this guide are easy to pinpoint as aimed at a specific type of user, Studio One is impressively well-rounded and difficult to pin down. Its closest competitors are probably Cubase and Logic. As of recent updates, it's incorporated a fully developed score editor, making it an excellent tool for soundtrack or compositional work. However, version 5 also added the Show Page, which significantly expands the live performance capabilities of Studio One for both bands and solo performers.

The DAW offers handy tools in other areas too though. The way in which it works with harmony and melody, for example, is slick, letting users adjust both audio and MIDI. Its mastering tools are a cut above many other DAWs too, offering handy features such as an intuitive way of linking projects and mastering stems, plus capabilities for directly uploading and distributing your exports. As we said, it's a real all-rounder.

### WHY IT'S WORTH A TRY:

For electronic musicians who want to dip a toe into the realm of composition – be it for film/TV or working with classical musicians – without losing a grounding in synths and samplers, Studio One is excellent. Its design is also quietly innovative and modern without being as adventurous as something like Bitwig Studio.

### DOWNSIDES:

Studio One's interface can be a little convoluted, particularly for newcomers. It's definitely deep and very capable, but for our money it doesn't feel creatively inspiring in the same way that other apps, such as Live, Logic or FL Studio can be. If you're after a quick ideas pad, there are probably better options out there for you.

# STEINBERG CUBASE

## The DAW that suits every genre?

**Bruce Aisher** makes the case for using Cubase…

**Cubase is the most flexible DAW available, which means that it works well whatever the genre. There are often discussions/ arguments about why one specific DAW is good for dance music and another is the best choice for rock, and yet another suits mixing, with composition handled elsewhere. The truth is that this is largely down to heavily-embedded users stating what they're used to, rather than a well-balanced analysis of the options.**

### TRAILBLAZING

**The fact is, Cubase defined the look, feel and functionality of what a pro creation environment should be decades ago. This began with its approach to MIDI – and Cubase is largely seen as the queen of MIDI-based music creation (including both external and plugin based instruments) – but also audio integration. The numerous ways in which audio events can be viewed, combined and edited (such as lanes, parts and folders) allows you to choose your own way of managing material, rather than battling with only one approach. Flexibility is the key here, with focus being on creativity.**

**This flexibility extends to the ability to customise the program to your own needs, making it work well on projects both small and large in scale. The fact that it can handle, and makes easy work of, large projects means that both complex multi-instrument composition and recording is straightforward – and with the Logical Editor, Logical Project Editor and Key Command Macros providing a degree of customisation whatever the genre.**

### OS AGNOSTIC

**Unlike some other software – naming no names – Cubase is also, and always has been, truly cross-platform, so you never have to stick with an operating system and its associated hardware because of your choice of DAW.**

Cubase began its life as a MIDI-only sequencer over 32 years ago and was the first of its kind to introduce graphical editing (with a mouse) of events and parts into the realm of music creation.

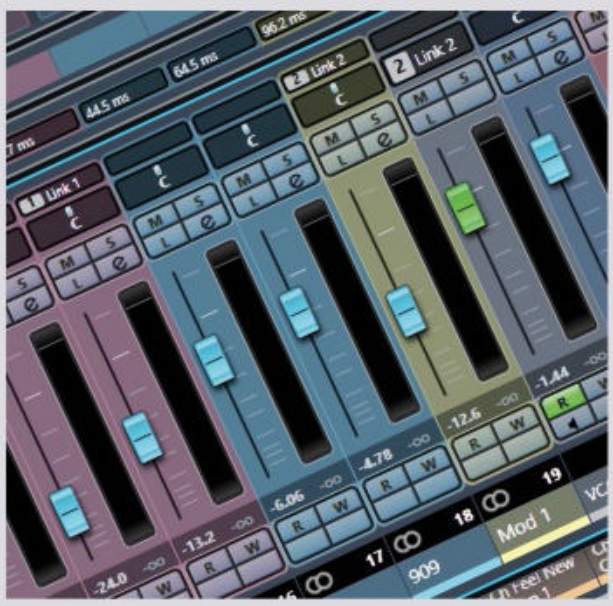
Over the course of this time, it has slowly evolved into a fully-featured DAW – with its creators, Steinberg, taking a leading role in helping define exactly what a true digital audio workstation should look like in modern times (including originating the now well-established VST plugin specification).

Cubase 11's arrival in 2020 introduced a more advanced Audio Export system, updated Sampler Track, new plugins like Squasher (multi-band dynamics) and SuperVision (audio analyser), as well as a whole host of other tweaks and additions.

At the time of writing v12 is on the horizon, bringing simplified licensing and workflow improvements.

# What we want...

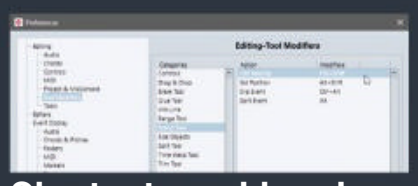
Cubase is such a large program that some features remain unknown to many users, and one person's 'must have' is another's waste of space. However, one common request is the ability to add or remove plugins without the whole audio engine playback pausing briefly. This appears to be mainly due to how Cubase manages signal routing and latency compensation, but there are certainly arguments for a smoother approach. Like other long-running DAWs, Cubase has inconsistencies in the look and feel of its editors, plus annoyances in the way its mixer window scales and presents its various elements.



# 10 power tips to woo you to the Cubase user base

## MixConsole

**1** The Cubase mixer (MixConsole) is highly configurable and can be viewed in a standalone window or in cut-down form in the main Project. What often gets missed is the fact that Cubase actually has three independent mixer windows, which can each show a different set of tracks. An effective approach to making full use of them is to assign a different key command to access each one, and then configure them for different track/channel types, eg Mixer 1 – Audio; Mixer 2 - Instruments & MIDI; Mixer 3 – Inputs, Outputs, Effects and Groups.



### Shortcuts and handy time-savers

**2** Get to know modifier keys as they can speed up workflow considerably. For example, holding the ALT while clicking an event with the Section Tool will switch you to the Scissors tool, whereas CTRL+SHIFT allows adjusting of Velocity. Some tools even have their own modifiers. They're all listed in the Cubase Preferences tab.

### Auto Fade

**3** Auto Fades are a very useful feature in Cubase, but there are subtleties to how they work that can impact their effectiveness. Accessed from each track's inspector, Auto Fade settings determine how each audio event on that track employs an automatic fade-in or fade-out.

### Preview edits

**4** SHIFT+BACKSPACE deletes everything between the Left and Right locators. However, before you delete, you can preview what effect this will have by swapping the locator positions so that playback skips that section.

### Fine-tuning

**5** If you need to make fine adjustments in Cubase, then pressing SHIFT while moving parameters with the mouse will switch to smaller changes. This works in the mixer for fader and parameter changes.

### Make your Marker

**6** Use a Marker track to help navigate a project and provide a clear overview. Set the locators at the start and end of different sections and click Add Cycle Marker. You can then Locate, Cycle or Zoom to that section using the relevant track buttons. Colour coding the markers also helps.

### Override

**7** When editing numeric fields in the Infoline of the project or editor windows, holding CTRL plus RETURN sets all selected events to the same updated value. This is a nice – and quick – way of overriding multiple events with different settings (volume, fade-in etc.)

### Key Commands

**8** Not all functions in Cubase have a keyboard shortcut assigned to them, which means you might be missing some features that are almost hidden from view. The Key Commands window will give you the full view over what is on offer.

### Try a new Lane

**9** The Lanes functionality on each audio track is commonly used when comping multiple takes. However, it can also be a fantastic way of trying out different edits without resorting to Track Versions.

## Project Logical

**10** The Project Logical Editor is immensely powerful and seemingly quite complex. However, there are a great set of presets to get you started, which make a good starting-point for creating your own. Here's one for moving all small, orphaned events caused by extensive editing to later in the project (and subsequent deletion). FM

18+

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# SUBJECTIVE

**Danny Turner** chats to Subjective duo Goldie and James Davidson about the making of their second album and its poignant nod to drum&bass

Goldie's 30-year career has seen him pioneer the '90s UK jungle, drum & bass and breakbeat scenes and work with a litany of high-profile musicians including Bowie, Noel Gallagher, 4hero and Pete Tong. Despite numerous sojourns into acting and the art world, 2017 saw the iconic musician return to the musical fold with his album *The Journey Man*, working alongside ex-Ulterior Motive producer and revered sound engineer James Davidson.

Seeking to realise their potential as a production duo, Goldie then invited Davidson to begin writing and recording at his home studio based in Phuket, Thailand. The result was a new project, Subjective, debuting with the cerebral ambient album *Act One – Music for Inanimate Objects* (2019). With tracks left over from those initial sessions, Pete Tong encouraged the duo to record a second long player, *The Start of No Regret*, which moves further towards Goldie's drum&bass DNA.

"I THOUGHT IT WOULD BE GOOD TO CREATE SOME REALLY WELL-DESIGNED BUBBLE LETTERS THAT PEOPLE COULD READ MUSICALLY" – GOLDIE

**So you found in James an engineer who could take your sound to the next level?**

**Goldie:** "I feel I've always had a role in taking engineers to the limit and had reached a glass roof with people like John Gosling and Mark Rutherford working out of William Orbit's studio in Crouch End on Rufige Kru tracks like *Krisp Biscuit*. When you start doing classical music and zooming in at a score or an arrangement, as soon as you go back to electronic music and discard the ego you realise you're just pushing buttons. I had loads of recordings on DAT that were like bottles of wine fermenting on tape, so I got James to come to Thailand and throw himself into all of that stuff on *The Journey Man*. If you know drum&bass and programming then you'll know that, compositionally, the track *Prism* is no joke and James really shone through on that because he has no glass roof. I wanted to stand back a little bit and share the fall with Subjective, which has been an amazing project to do that with. That's why we're here, but unfortunately he's eating us out of biscuits at our home here in Thailand."

**The first Subjective album, *Act One – Music for Inanimate Objects*, was instrumental, cinematic and orchestral, so how did you want to approach this second album?**

**Goldie:** "The whole idea of giving *Music for Inanimate Objects* an ambient vibe was ignored a little bit and the album didn't register the way I thought it might. It's a bit like opera, unless you're really into it, no one wants to sit down and watch that for three hours because it's a very niche thing. So from my graffiti background I thought it would be good to create some really well-designed bubble letters that people could read musically and wouldn't make you feel like you've had your brain pulled out your chest."

**You've been spending a lot of time together in Thailand. Is that solely about promotion?**

**James Davidson:** "This time it was supposed to be solely about promotion and to show people where we wrote it and what we were doing, but as tends to happen when we're in the studio, we ended up writing. We've actually been making a few really good Rufige Kru tracks, which was great because early tunes like *Beachdrifta* and *Terminator* were huge for me. That sound's completely different to Subjective because we've been resampling old Metalheadz DAT pads from *Timeless* and leaning towards that DNA."

**How did you first get noticed by Goldie?**

**JD:** "I first got noticed by TeeBee from Subtitles Records back in 2007. He put out our first Ulterior Motive single in 2009. Then I met Goldie at the SUNANDBASS festival in Sardinia and he told me to put the album out on Metalheadz, so we ended up releasing *The Fourth Wall* in 2014. He really liked the sound of the album and asked if I'd be interested in engineering his new record at the time, *The Journey Man*."

**Goldie:** "I liked the engineering but I also liked the fact that it wasn't brittle. These days there tends to be no headroom on tracks and a lot of smashing, whereas I come from the DAT generation where there is headroom. James is in a digital bubble capturing analogue loops and when I dug a bit deeper and listened to tracks like Ulterior Motive's *The Elephant Tune* I thought they were amazing. Knowing it wasn't analogue, I felt there was warmth to his sound, a lot of which is down to James' exterior hardware, which he builds himself."

**What was Pete Tong's involvement?**

**Goldie:** "People forget that Pete Tong was the A&R man who signed *Timeless*. Then I went off and did *Mother* and didn't give a fuck, so he almost felt robbed of that second album. When we were celebrating *Timeless* a couple of years ago, he asked what I was up to and I said I've got half an album sitting around but nobody understands what it is. We sent it to Pete, he flipped his lid and said can you get this done, so I told him to speak to the Sony bods and move it, which they did. Then Pete came with his smart A&R hat and said, "Can you put a couple of 155bpm things on there?". So we did *Dollis Hill Rufige*, *Sunlight* and *Reflection*, which were a bit closer to home and fitted in lovely. It was a bit like, we've been doing kung fu for years, so all of a sudden we'll do a bit of feng shui."

**Did you feel comfortable going back to the '90s drum&bass vibe on certain tracks?**

**Goldie:** "If you were standing in the '90s and looking back at the '60s there's a 30-year disparity there. You're looking at the beginning of Bob Marley, Cream, The Stones and The Beatles – all of these people I had a mad life with, and then in 2020 you suddenly realise it's been 30 years since the '90s. I can go to a club this weekend and play music that's 25 years old and people will still say, 'what the fuck is this tune?'

because the music from that period was so cutting edge it created the bastard child of electronic music, which is drum&bass. Some people went off and used it very commercially, like most genres, but most people I speak to at the cheese counter at Waitrose say, 'I used to love Metalheadz but stopped after 20 releases cos I wanted to have kids', whereas I'm just a professional child who carried on making music. If you'd never listened to *Timeless*, you could pop Subjective tracks like *Dollis Hill* and *Reflection* in there and they would sit well."

**JD:** "On *Music for Inanimate Objects*, we didn't have a game plan, we just wrote what we wanted to write and the process was a stream of consciousness. For the second album, *The Start of No Regret,* it was more considered."

**Goldie:** "I'd been very successful writing vocals and we felt that was missing in our partnership. James would go hell for leather on certain pieces but I thought they would be very difficult to write a vocal to. The album was initially going to be called *The Art of Simple Complexity [laughs]*, but what Tongy infused in the project was to put a little more ID on it. All the vocal tracks are really personal and I feel the track arrangement is really good because the album starts getting pacier as it moves forward."

"WE DIDN'T HAVE ANY KIND OF PLAN, WE JUST WROTE WHAT WE WANTED TO WRITE AND THE PROCESS WAS A STREAM OF CONSCIOUSNESS" – JD

**Did making this album in the middle of a pandemic change your working process?**

**Goldie:** "We kind of dodged it really. This was James' seventh trip to Thailand, but what changed was that he had an unbelievable desire to write in isolation at hotels before we got out of quarantine. We had all these sketches that we'd bounced around, but he also made new ones while he was twiddling his thumbs and getting really bored. *Breakout* was one of them, and *Paradise*, so we thought fucking hell, let's go into those."

**Were the vocal contributions more complex to source?**

**Goldie:** "Vocal-wise we work remotely most of the time because I have to record the vocal guide. It's that Kubrick thing where I won't have any of it; there's the vocal, there's the guide, there's the intonation of the vocal and it's got to be sung in that way. After they've nailed that they can go off-piste and freestyle as much as they like, but I can't stand the idea of divas. Lyrically, *Crazy*, *Brushstrokes* and *American Gods* were made on Necker Island one hour and a half out of Phuket three and half years ago. I've got a summer house there, so we just made fires and wrote those tracks."

**JD:** "As Goldie says, he did the lion's share of the lyrics and if we ever fall out I can release all of the demos of him singing from start to finish. Basically, if I come up with a little chord structure for a song and play it to him, we have to hit record there and then. What's funny about Goldie is that he'll sing a top line into his phone, save it, and two years later I'll play him the same chord and he'll sing the same top line again. At one point we were playing with drones and different bits of software and he sang a line that resonated so strongly that we made it the lead and ditched *The Art of Simple Complexity* title to create what became *The Start of No Regret.*"

**Did you have a black book of vocalists you wanted to work with or did the music inform those decisions?**

**JD:** "Once we've written a track we know who we want on there and generally turn to Goldie's pool of friends and trusted people. Greentea Peng was different. I'm a Spurs fan and Goldie's friend, graffiti writer Drax, is an Arsenal fan, so a couple of years ago we went to the pub to watch the North London derby and he told us his goddaughter was Greentea Peng. This was before she got signed and he played us something on his phone that we thought was sick, so I grabbed her WhatsApp and that's how the whole collaboration developed."

**Being a sound engineer, would you say your studio in Bournemouth is a little more expansive than Goldie's?**

**JD:** "For sure. We track and record everything through Goldie's Neumann U47 mic and he has a nice Focusrite ISA One preamp, but I trust my room too much not to mix at home. When we're together, I'll write as quickly as possible using some samples and rough chords and we'll usually get a track done in a day and all the edits finished by lunchtime the next day before moving on. The worst thing for Goldie is for me to be spending time EQing out little resonances because it's a complete vibe killer."

# MUSIC PRODUCER'S GUIDE TO SYNTHS

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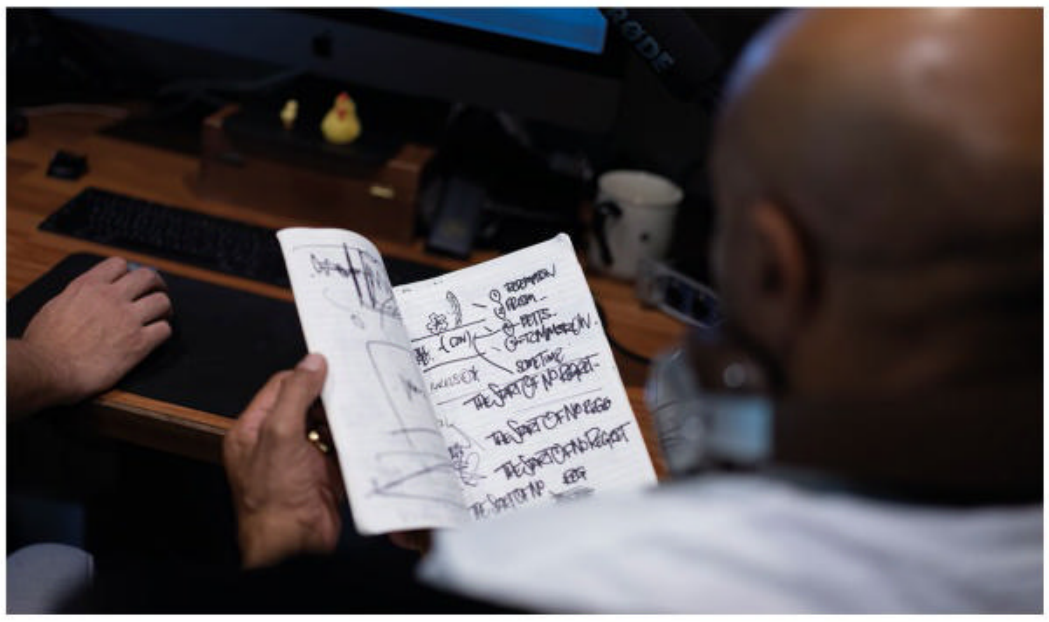
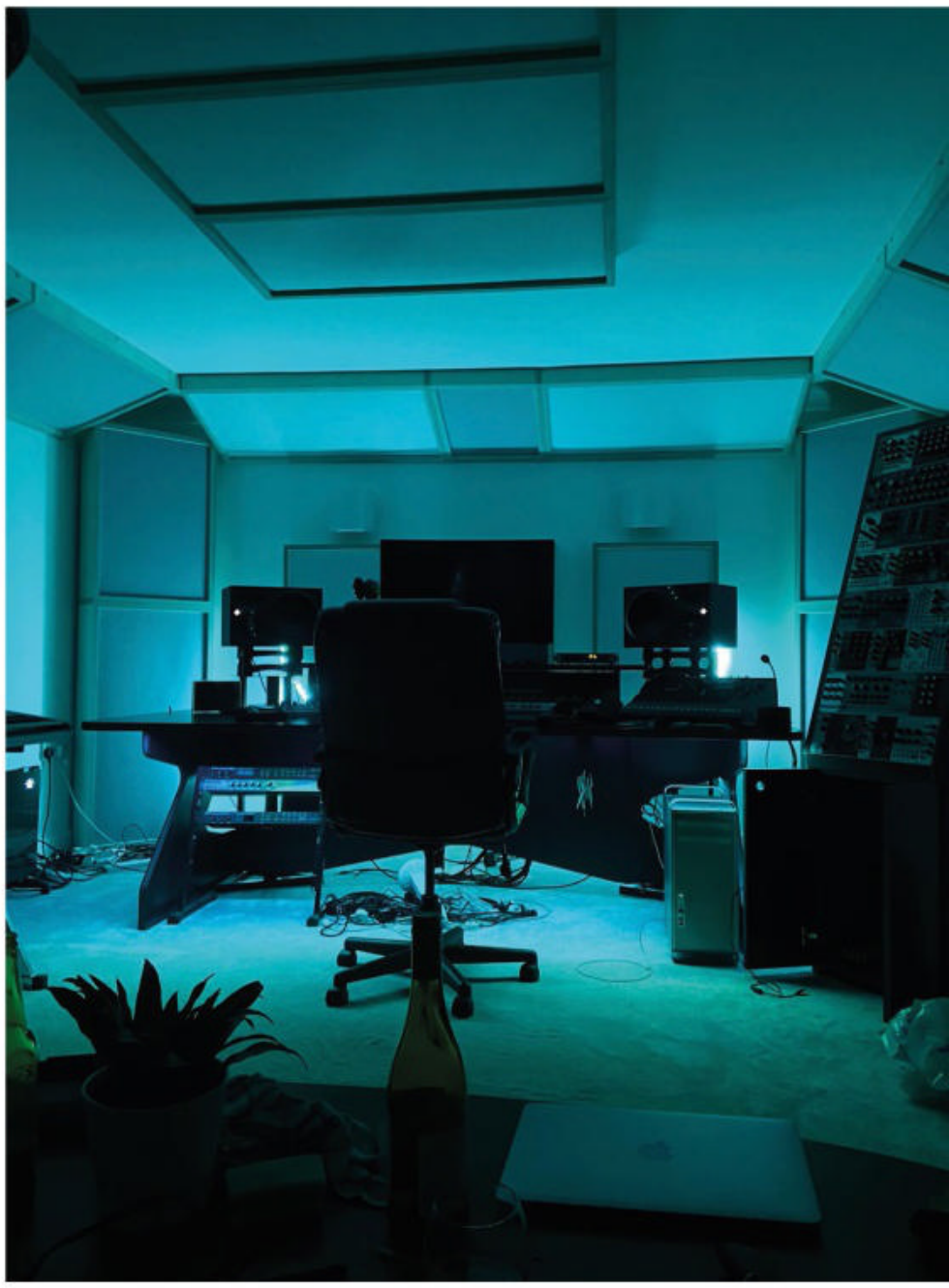




"WE KNOW WHAT EACH OTHER EXPECT AND IF I SEND HIM AN EARLY TRACK HE'LL BE LISTENING TO THE BASS NOTES AND THE TIMING, NOT THE LEVELS" – JD

**Is it problematic exchanging sound files when you both have different monitor setups?**

**JD:** "We're sending them back and forth way before that. Goldie will send my chords having had them come out of his speakers and into his iPhone while he's hitting voice record and singing over the top of them. We know what each other expects and if I send him an early track he'll be listening to the bass notes and the timing, not the levels. When it comes to checking the mixes, he's very particular about the bass and vocals and how they're coming through. He wants everything to sound Motown, where the mic's fucked and everything's distorted but sounds nice."

**Goldie, did you streamline your studio when you moved to Thailand and rely on old-school gear that you knew worked for you?**

**Goldie:** "No, I boxed up all the rackmount stuff and my Korg M1 and 808 from where I was in Bovingdon in Hertfordshire. Since then, James brought a lot of software to the table. Any good music composition is 20% hardware, 20% software and 60% soul. With my dyslexia, I could never retain information on a binary level. I didn't feel the necessity to either, because I've got mad concepts that I write down in books. You can look at a screen, but you've also got to look at the bigger canvas and that's my strength in working with composite music. Of course, Logic comes out with new stuff that we update all the time and James shows me plugins where I think, really? We used to have to do all that manually. I'm really not about presets, because if I've got them some other fucker's got them."

**Do you feel that, today, electronic producers are too preoccupied with the technicalities of music-making and lack vision?**

**Goldie:** "I think content is really important to music going forward. When I think about what's come out over the past 15 years from a software point of view I listen to the music and think, pfft, what are you doing with it? I'm hearing a lot of the mechanics but I don't want to hear the mechanics, the trick is to hear the soul and to make engineers ask, 'What the fuck have they done there?'. James has that tech ability, but his programming goes beyond just being a tech and he's really learned how to walk that rope. I don't wanna give it the big uncle, but I keep throwing kitchen sinks at him and he doesn't flinch."

**James, Goldie mentioned earlier that you build your own gear?**

**JD:** "Before I did music full-time I worked for 13 years as a flight simulator engineer and had a background in electronics. I built an SSL 4000 Series compressor and embedded it into a fruit bowl and I've made 50% of the modules in my modular rack. Some of the designs are open source, so I'd start with a multiband filter and get together with a group of people from a Facebook group to buy the circuit boards and capacitors and design the faceplates. From there, I went on to learn how to flow STM microchips and that turned into an addiction. I'm basically adapting stuff that's already been made."

**Does using modular slow you down?**

**JD:** "I don't track kicks or synth lines into a tune, I'll just hit record on my DAW, mess about for half an hour, stop, cut up all the bits I want, save them and start again. Otherwise you can easily end up with a three-hour audio file and you're probably not going to go back through all of that. I've also learned not to record pre-effects. I've got a Mackie 1604-VLZ Pro and smashing the gains on that and clipping is the key to a lot of my distortion and basses, but if you do that too much everything sounds washed out and unusable later on."

**Goldie, is it fair to say that you come from a world that was based on the limitations of '90s gear?**

**Goldie:** "I do what graffiti did, where you've only got a certain amount of colours so you've got to really use them in the event window of what the arrangement is. I had a critic a couple of years ago, which is where the name Subjective came from, who said ,'What the fuck has DnB's three notes got to do with anything?'. Well in its primitive form, jazz has got three denominate notes, so it's really all about what you do with them. A lot of people within electronic music discard the writing side of it and think in terms of numbers. Music is math, but it's not just sound, there are different dynamics relating to how sound interacts with what's around it."

**JD:** "When you're working on a Rufige Kru DnB roller that you want all the DJs to play, you have to fall back on the maths, but when it comes to creating a Subjective track like *Lost* or *The Start of No Regret*, you have to discard that and unlearn what you know about instrumentation. As Goldie once said, imagine there's a band playing at Ronnie Scott's

and someone's about to do a solo, everyone else drops back and the shine moves to that person. That's the approach we take to mixing the tracks, where I'm literally automating the volume and EQ curves depending on where we want the focus to be."

**Goldie:** "Because I don't engineer and James is a geek, we have a great yin and yang. When we wrote the track *Silent Running*, I watched Bruce Dern and the three robots, turned the music up and whatever the NASA feed had going on to see how endearing the music sounded with that backdrop."

**We don't seem to have many long-lasting electronic genres surfacing these days. Is that a good thing or does it show a lack of imagination?**

**Goldie:** "It does show a lack of imagination. We're in a dip but it's very hard for any genre to rear its head and be absolute because everything's been done and there are not many technology changes that can evoke new genres. We also have a 100-year time machine of things to take from. We're pushing the envelope in that I feel *The Start of No Regret* is abstract or *Portrait*, on the previous album, is about a track writing itself, so there are many creative ideas that people aren't doing. There's lots of room for innovation, but people aren't joyriding the equipment the way they should. There's so much technology out there that you get this sweet shop syndrome where too much of it is kind of making us sick. Just get the basic flavours and execute the flavours instead of putting a plugin on top of another plugin. You can polish a table with three legs as much as you like, but it's not going to have the right balance and you can't hide that. To answer the question as best I can, there's not enough people going balls out and doing stuff that's eclectic, but hopefully we're at the beginning of electronic music doing something really new as opposed to the end of it."

"WE'RE IN A DIP BUT IT'S VERY HARD FOR ANY GENRE TO REAR ITS HEAD AND BE ABSOLUTE BECAUSE EVERYTHING'S BEEN DONE" – **GOLDIE**

**Is some of it to do with fear and producers conforming to how music is consumed these days?**

**Goldie:** "They're very frightened. When I say 'LP' to people, they lose their shit and Spotify, for all it's worth, can have all the icing in the world but without the cake it doesn't really matter. What was the last album you listened to over the past 10 years? I think you might find it's the same as me because I've been listening to the same albums on repeat since pretty much forever. I probably listen to Miles Davis' *Kind of Blue* once a month, Pat Metheny's *Still Life (Talking)* once per week, Charles Mingus or new stuff like Cranes. We all stopped listening to Coldplay after the first album. Thom Yorke was a god in my eyes – Radiohead were the first electronic rock band if you like, because they were pushing the envelope with pedals and looping."

**JD:** "One of the few albums I listen to from start to finish is Tyler, the Creator, and Burial is also someone who managed to find a new aesthetic over the past 15 years."

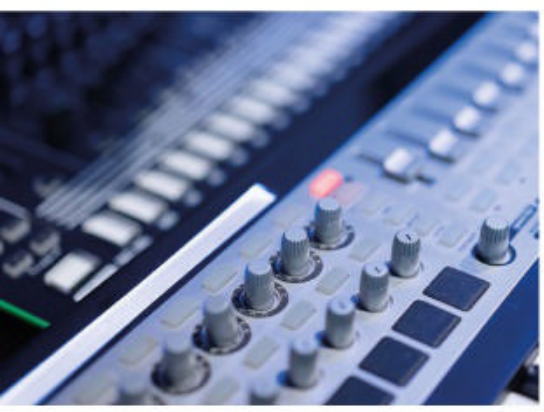
**Goldie:** "Lovely boy, but he didn't want to move into anything else and just wanted to do his own thing. He had a great technique using edit windows that he couldn't go back on. And Will [Bevan] was one of the last of the greats in terms of someone who didn't give a fuck. Grime's now at the forefront in terms of Britain having its first real rap music where something's also happening socially and politically."

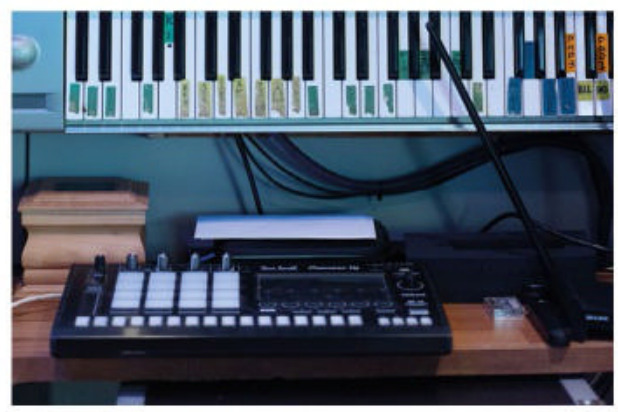
**You're clearly in simpatico, so where does Subjective move from here?**

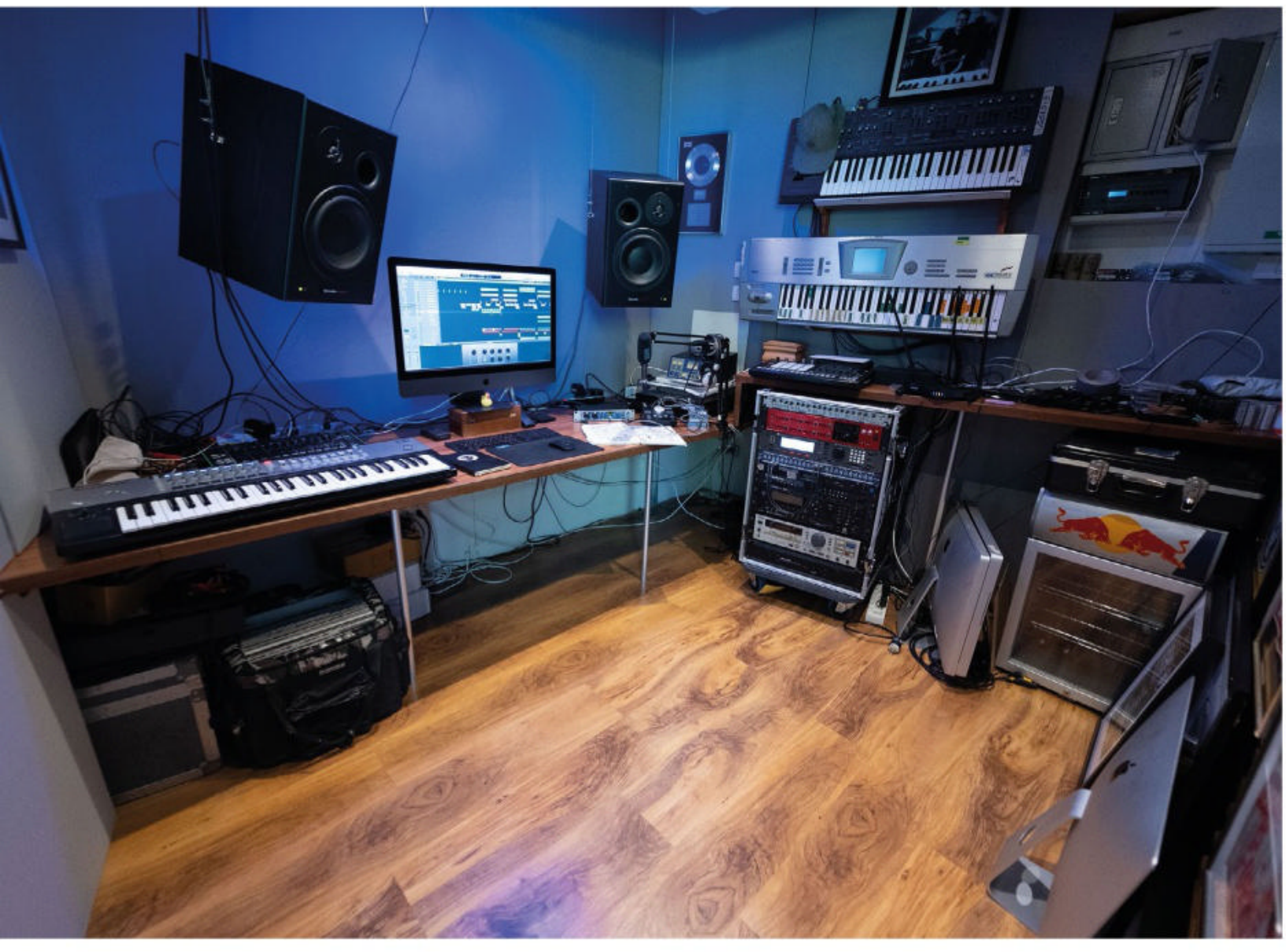
**Goldie:** "We don't just pick something up, put it down and leave it – we've got lots of folders that we can't wait to get out there. We've got S*ea Of Tears* – the orchestral version – ready to go and mad versions of different things that we can't wait to get into, like mixing a soundtrack album. You're only as good as your music and no one's bigger than that. All my heroes are fucking dead, so it's good to ask what you'll leave behind. When the spirit of music is kept alive through me listening to it or reminiscing, that's the best thing." FM

**WANT TO KNOW MORE?**

Subjective's new album *The Start of No Regret* is out May 20 on Three Six Zero Recordings. For more information, visit **facebook.com/subjectivemusicofficial**







## SUBJECTIVE'S CHOICE KIT

**Moog DFAM**
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**Elektron Analog Heat**
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PRODUCE LIKE...

# Turno

We find out how the UK DnB producer took inspiration from a freeclimbing legend for his atmospheric new single

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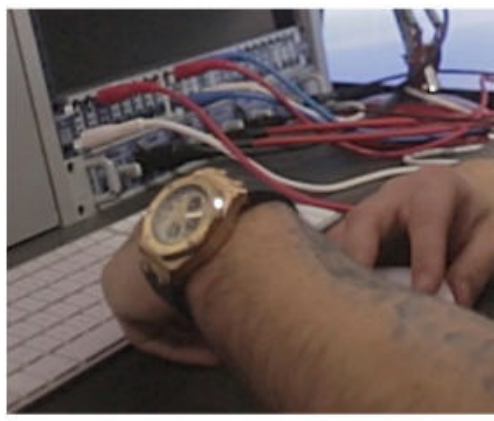
**Turno's collaboration with George King – famed for climbing London's Shard – took artistry to new heights**



UK-based producer Turno – real name Franko Moliterno – has been steadily making a name for himself in the drum&bass world for the past decade. Marked out by his intricate yet impactful production, his career to date has seen him land releases on labels including Playaz and Charge.

In more recent times, he's also launched his own learning platform – named Ethos – aimed at creating a community based around production tuition and the sharing of ideas.

His latest project is particularly fascinating though. Following a chance online link-up, Turno partnered with viral freeclimber George King, aka The Shard Climber. The concept behind their collaboration was simple: to create a soundtrack to accompany George's next big freeclimbing challenge, Barcelona's 31-storey SkyMelia hotel.

> "HE WAS A BIG PART OF THE PROCESS. I WANTED TO GET INSIDE HIS MIND LIKE A PSYCHIATRIST"

The resulting single, *Melia*, is appropriately both inspirational and atmospheric, combining euphoric pads, driving beats and atmospheric textures – including recordings of George's own breath. You can see the track and George's climb come together in the official video for *Melia*.

We headed to Turno's studio in Bedford, north of London, to find out how it all came together.

**Tell us about the new single *Melia*...**

"It's a new project between me and someone you probably wouldn't put me working with, George 'Shard Climber' King. He's a freeclimber, and we linked after he used one of my tracks on a climb. We got talking and found out we had a lot in common and decided to do a piece of art that could be appreciated from all angles.

"We were originally going to do a livestream with him climbing, but we decided to make something bigger. We ended up making a track to represent the journey he goes through when he's doing a climb. The preparation, the mental state, onto the actual climb and the danger of it. Then to the elation at the end. It's completely unique and because we've got visuals to go along with it

– drone footage etc – it all fits together. I'm hoping people can feel some kind of emotion about how you climb a building."

**Did he come along to the studio?**

"Twice. First time we just got samples of him breathing, in a concrete jungle kind of environment. He was a big part of the creative process, I didn't want it to just be featuring him. I wanted to get inside his mind a little bit, like a psychiatrist, and get his input as much as possible."

**How did you start making music?**

"I was just in my mum's bedroom with an iMac and a pair of Behringer Truth monitors. And then when I moved into my studio now – my dad owned the premises – I didn't have a lot but I built from there. I think now you can do a lot in the box. I wanted to learn the craft properly."

**And you're using Logic?**

"Yeah, that's what I learned at university. I've veered towards Ableton Live a couple of times and there are good features about it, but if it ain't broke…"

**What's changed in your process over the years?**

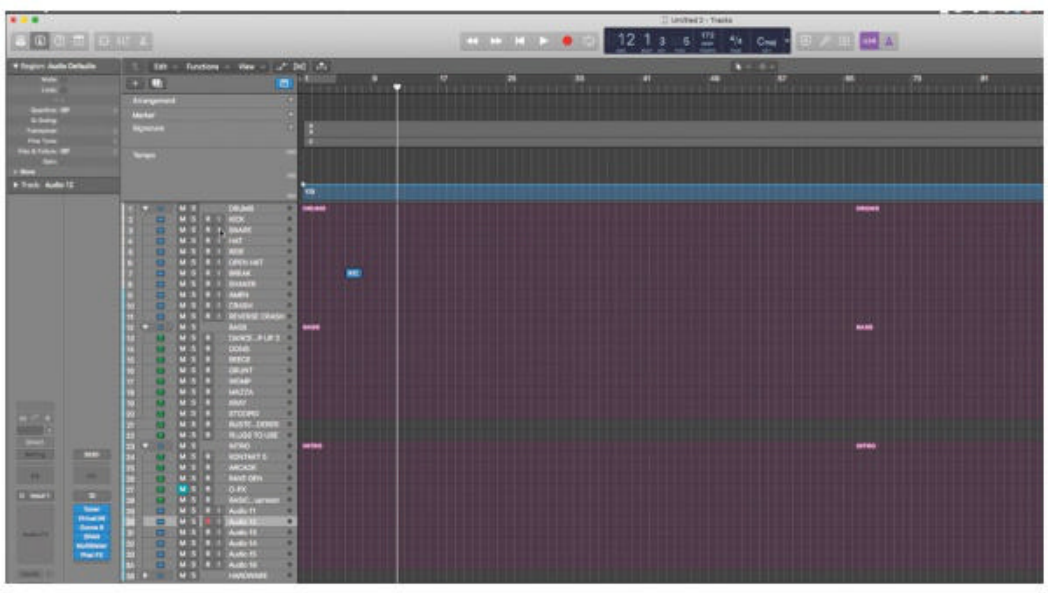
"The main thing has been using analysers. When I first started – and I was a DJ first – getting the volume to stand up against industry standard mixdowns was always boggling to me. Emulating other peoples' tunes and seeing where they were hitting made me understand things much quicker. I know where my kicks have to hit and my snares have to hit.

"Also, workflow wise, preparation has made a big difference. Having a template and sample folder with your sounds that you know work. Any way that you can just make the creative process quicker, ready to go, especially if you collab with people. It's about treating it more like an actual job, although I hate to say that *[laughs]*."

> "DNB IS VERY TECHNICAL NEXT TO OTHER GENRES, PARTICULARLY WITH SCULPTING SOUNDS"

**What led you to DnB?**

"A friend from London got me into it when I was still in my walkman days. And I got some decks and decided, yeah I want to do this man! I got into music tech at school and it was a natural progression. It's very technical against some other genres, particularly when it comes to sculpting sounds. For example, finding a snare sound that's adequate to use – these days you just Google it and get loads. But coming through the era before that, I think I have a lot of technical skills that I'm proud of."



Turno swears by the "treat your music like a job" mantra

**Do you think your DJing feeds into your production?**

"That's the beauty of it. You get to test stuff at the weekend. You get to clock certain sounds that seem to work, trends like fake drops. Because it's predominantly club music, you get so much from it. It has a massive impact on what I make. 'Is this going to go off in a club? Get a reload?'. It's on my mind when I make club music."

**Tell us more about your Ethos learning platform…**

"I set it up in lockdown. I have been doing one-to-one tuition for seven or eight years, people coming to my studio. I know how to relate music to people. So I thought, why not set up an actual platform? Because of lockdown, a lot of DJs were out of work, and I wanted to do something positive. It was mainly for myself.

"We've got a Patreon but more with a community feel, with Discord and all that. We set missions for the members, eg, complete a track with just these elements in. It's built to the point where we have other artists involved. It is mostly DnB but we have plans of expanding." FM

## TURNO ON THE IMPORTANCE OF...

# A good template

VIDEO ON FILESILO

**"I always have a template, I find it's a lot easier that way. I've been doing this for over ten years now and I find any way to make the process easier and more user-friendly, to keep the creative juices flowing, I'll definitely go for. It could be as simple as having a template with a few regular VSTs you use, your bus channels, your master chain – anything that can help with the process.**

**"I have one template I use every single time. I do update it though from time to time. I might have a period where I like to use certain sounds, for example, then that might change because I want to get new sounds in or I start veering towards a new synth. It's good to keep things fresh.**

**"I use Logic. I also use Track Stack, which is very important to me in regards to keeping everything organised. My last project had over 100 channels in it so it can get very chaotic when you come to the mixdown stages. This way I can focus on certain elements like the drums or bass.**

**"Another good point is to name everything. I know a lot of people are probably messy producers, but when it comes to the mixdown process, I find naming everything properly is vital. Just for your own head really. Otherwise it can get really messy."**

**See Turno's track template and find out how he creates his tracks in our Trackbuilder video on FileSilo.**

## WANT TO KNOW MORE?

Find Turno's Ethos platform at **the-ethos.co.uk**

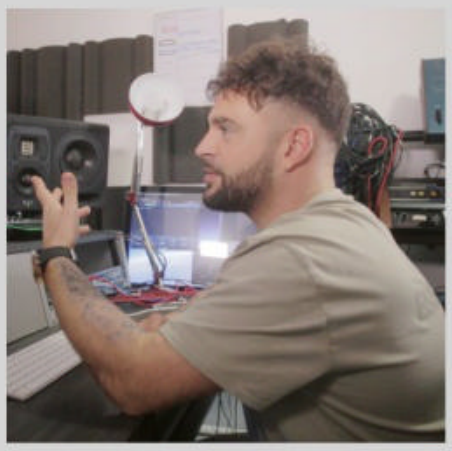
## GET THAT SOUND...

# Turno breaks down the ambient intro to his track, *Melia*

VIDEO ON FILESILO

## 01 >

"The track is kind of ambient. I wanted to capture the 'concrete jungle' vibe for it," Turno tells us of how he built his track around inspiration from The Shard Climber, George King. "There are quite a few different elements layered up. I even have his breathing in there."



## 02 >

"It starts with George's breath. I had to double this up," he explains. "In context it gives that meditative, trancey state."

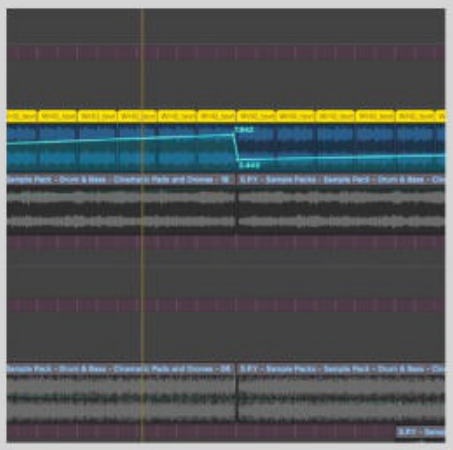
The breath sample is layered up with a vinyl crackle too; a trick Franko uses regularly to add texture.

## 03 >

The next layer is an ambient cityscape recording. "It's subtle, you can't really hear it, but, again, it adds to the whole ambience of the intro and helps to paint that picture even more." A chorused white noise further thickens up the ambient textures.

## 04 >

Alongside the ambient textures, Turno uses filters to bring in the main pads and loops of the track, so they build up towards when the drums come in. "It gradually adds tension," he explains. "You don't get everything all at once. You start to feel the presence of all these sounds."

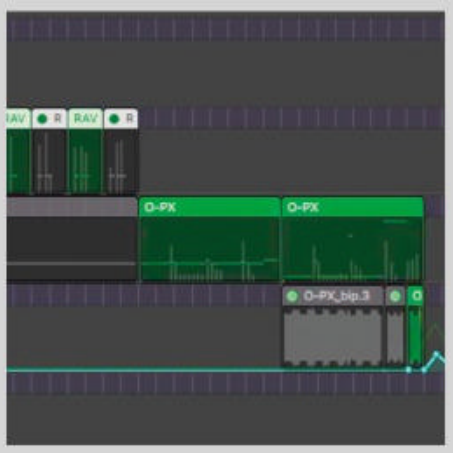


## 05 >

The pads themselves are run through Output Portal's Grain Swells preset, which adds texture and movement. A low-level, filtered arp line underpins the pads too, slowly rising towards the drums.

## 06

A pulsing 808 kick is used to underpin the intro. "I've tried to emulate the heartbeat that [George] would be feeling. It just adds another element, particularly when you're using headphones."



# Physical modelling synths

Simulating the real world of sound and beyond, these top instruments make their mark with their in-depth control sets and jaw-dropping anything-is-possible sounds

Imagine you had an instrument that could change its size, shape, and material while you play it: that's the goal of physical modelling synthesis. Various kinds of synthesis can mimic acoustic instruments, but while subtractive synthesis might use resonant filters to create something akin to a piano or violin, the results are unlikely to fool even a casual listener. Physical modelling goes much further.

This kind of synthesis pushes the mathematical side of things to the max, using complex algorithms to emulate not just the sound of an acoustic instrument, but the way they're physically played as well. The results are uncannily realistic.

But why, you might wonder, would we use synthesisers to simulate real instruments when you could just use a sampler? The answer is versatility. Physical modelling can be used to create realistic versions of existing instruments, or it can be used to make new hybrid instruments that couldn't possibly exist in real life. It's a powerful combo that has attracted legions of fans among sound designers and musicians alike.

In this article, we're going to take a look at the basic concepts, terminology, and workflow of these instruments. Once you have a hang of the fundamentals, and put in a little work, physical modelling synths can become one of the most useful tools in your arsenal.

## Getting real

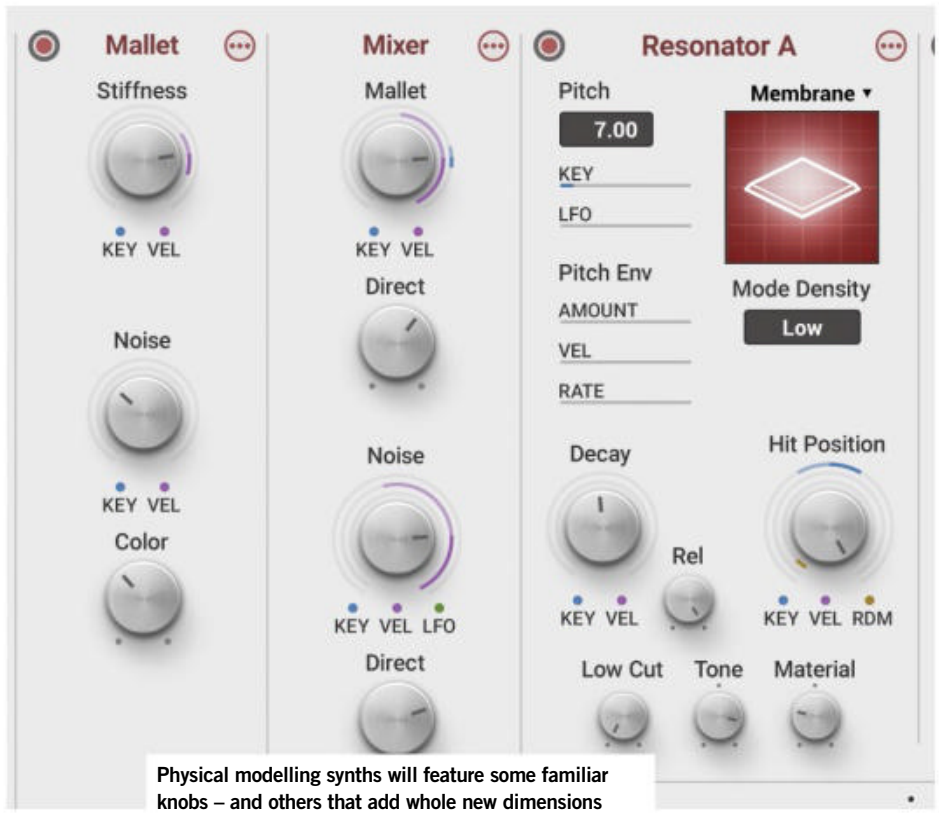
Physical modelling synths build off the same principles as other synths you might have used, and when you first open one up, you'll probably see recognisable elements inside, such as filters, envelopes, and LFOs.

What's different about these instruments is the way they generate sound. To get a sense of what's going on, just think about how an acoustic instrument operates; we might have a string to vibrate and produce sound waves, a guitar pick to start the vibration in motion, and the body of the guitar to provide extra resonance. Physical modelling employs algorithms to simulate each step in this process, creating a virtual version of the acoustic instrument. Of course, each modelling synth is different: some might focus entirely on strings, some on percussion, or others on woodwind instruments.

However, there are some common terms you're likely to see no matter which instrument you're using. There will probably be a selection of 'Resonators' which model the vibration of various materials such as wood, metal sheets or strings.

There will also be an input section where you can choose how you want to activate the vibration (mallet, bow, impulse, square wave etc). There may also be a section that lets you filter your sound through resonant bodies of different shapes and sizes.

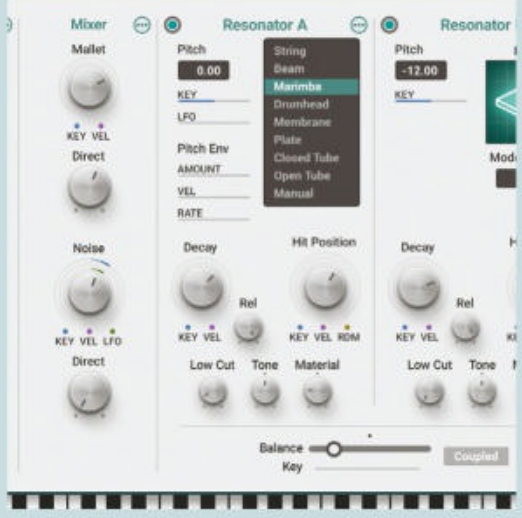
With just these three sections, you can produce scintillating tones and textures – but of course, that's just the start. Most synths let you control density, object stiffness and many other variables as well, making it possible to sculpt every aspect of the virtual instrument.




**Physical modelling synths will feature some familiar knobs – and others that add whole new dimensions**

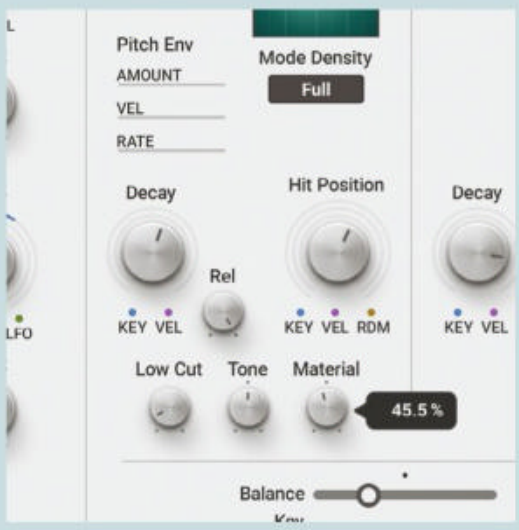
# Pitched percussion

1 Let's make some pitched percussion using AAS's Chromaphone 3 physical modelling synth. You'll see two independent layers of sound (A and B) on the Home tab. For now, we're concentrating on A. Head straight over to the Editor tab to get started.




2 On layer A, click on the Synth page to see all the essential parameters. We're going to start by choosing our own Resonators. Try selecting Marimba for Resonator A and Open Tube for Resonator B.

3 Next, fine tune the Decay parameter for Resonator A to give the marimba a shorter, more percussive sound. It's also important to experiment with the Balance parameter to make sure Resonator B isn't too loud.

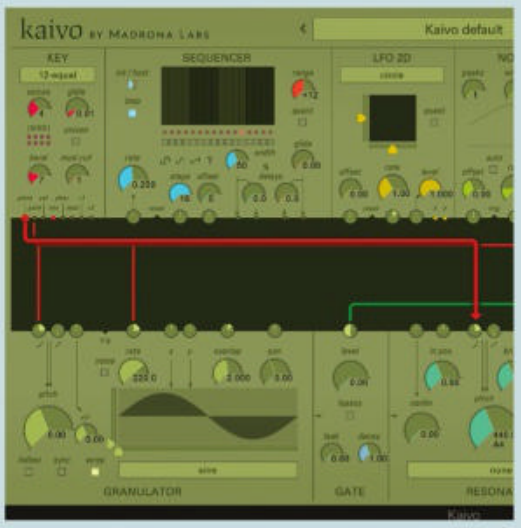



4 The marimba on Resonator A has a Material parameter which lets you shift the marimba sound from soft wood, all the way to a bell-like tone, similar to a vibraphone.

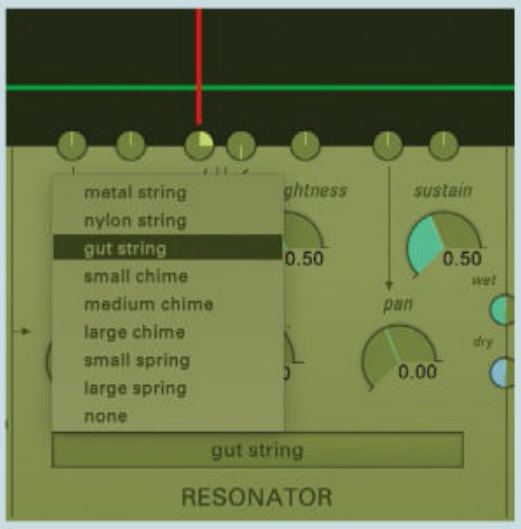
5 The next step is to fine-tune the stiffness of the mallets that are setting are activating our resonators. Chromaphone lets you morph from hard impacts to soft brushes.

6 Finally, we want to play around with where the mallets are hitting our resonators. A real player can play at the very edge and produce a thinner sound, or right in the middle to produce the maximum resonance. So can we!

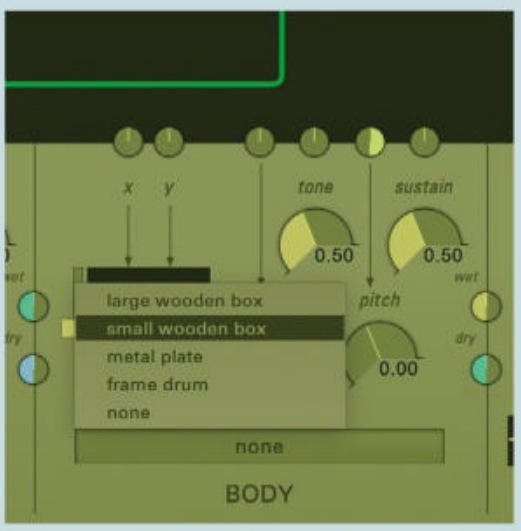
# Making an acoustic bass with Kaivo



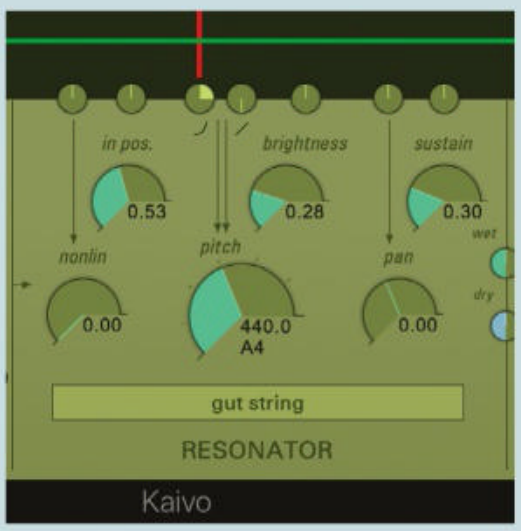

1 Kaivo uses a modular patching system to allow you to easily connect different parts of the synthesiser together. To begin with, simply click and drag from the pitch outlet in the 'Key' module and link it to the left pitch inlet on the Resonator module.




2 Kaivo has a pretty large selection of Resonators to choose from, including various string types and even metal springs. As we're putting together an acoustic bass sound, load in a Gut String Resonator.




3 The sound of an acoustic bass depends not only on the strings but on having a large resonating body to colour the sound. Try adding a Large Wooden Box in the Body module and listen to how it filters the string sound.




4 Now it's all about the details. On the Resonator module, spend a little bit of time with the Sustain and Brightness controls – you'll want the sound to have a nice, percussive attack and a lot of warmth.

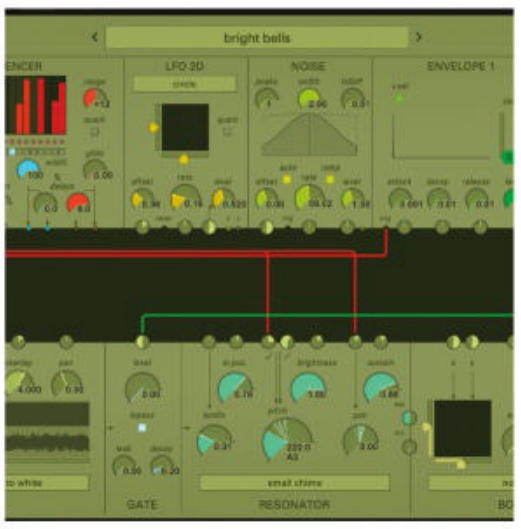
## Madrona Labs Kaivo

Madrona Labs' outside-the-box thinking has made Kaivo a fan-favourite among physical modelling aficionados. Proudly independent and with a do-it-yourself ethos, the instrument walks a fine line between realism and sonic experimentation.

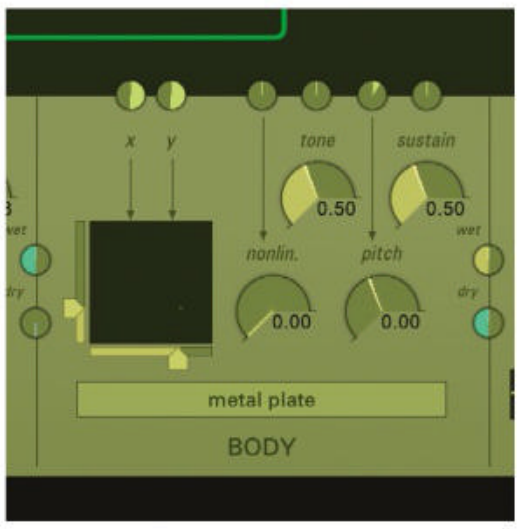
When modelling acoustic sounds, the synth offers fine-grain control and modularity, letting users customise the signal path to create the kind of variation and nuance that makes a string instrument realistic.

And if you're looking to get weird, Kaivo has plenty of potential to push the envelope. The LFO 2D outputs two signals instead of one, and with independent control over the X axis and Y axis output, users can modulate with traditional shapes like sine waves or with more esoteric sources, such as a gaussian bell-curve. Similarly, the granular input source opens up a near infinite variety of possible sound combinations as fragmented audio files are used to hit or pluck the resonator string.

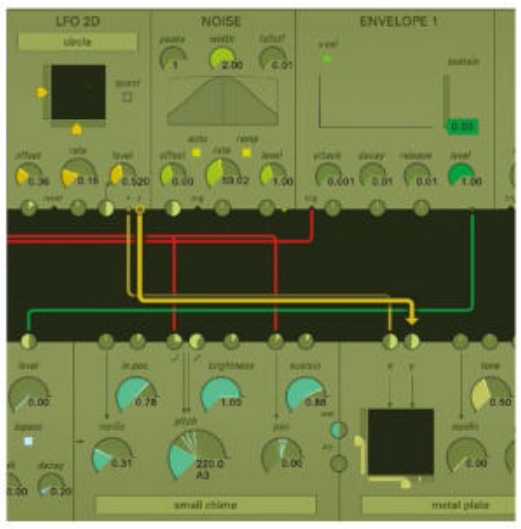
# Expanding the possibilities with Kaivo




1 In comparison to a real instrument, Kaivo's Body module lets you dynamically move the contact point for each voice's resonator. To try this out, begin by loading the Bright Bells preset and add a Metal Plate body.




2 Using the Body module's XY pad, it's possible to shift the Resonator's contact points before or during playback – try moving the position to hear how it changes the resonance and timbre.




3 You could do this by hand, but Kaivo also has a powerful LFO section. Try connecting the LFO's XY output to the Body modules input section to give the bells a constantly evolving tone.

# Beyond the limits: Plasmonic

While physical modelling synthesis started out as a way to realistically simulate acoustic instruments, there's no reason why the same principles can't be used to make wholly unrealistic, out-of-this-world noises.

Combining physical modelling with other methods of synthesis, like subtractive, vocal, and granular, means that even when it sounds impossible, it still sounds physical and tangible in a way that many other digital instruments don't.

Forward-thinking synth designers tend to use innovative input sources like noise, granulated samples, or digital waveforms in combination with customisable resonators and extensive modulation options. Not only can these instruments produce sounds which are impossible to make on a real instrument, they can make sounds that couldn't be created using any other type of synthesis – don't even try.

"SURE, YOU CAN PRODUCE ACCURATE ACOUSTIC BASSES OR KEYS, BUT REALLY THIS IS JUST THE START"

An example of this is Rhizomatic's Plasmonic. Dreamed up by the developer who brought us the excellent Absynth, it combines physical modelling with subtractive synthesis to bypass cliché synth sounds and instead offer hybrid instrumental textures that excite and delight.

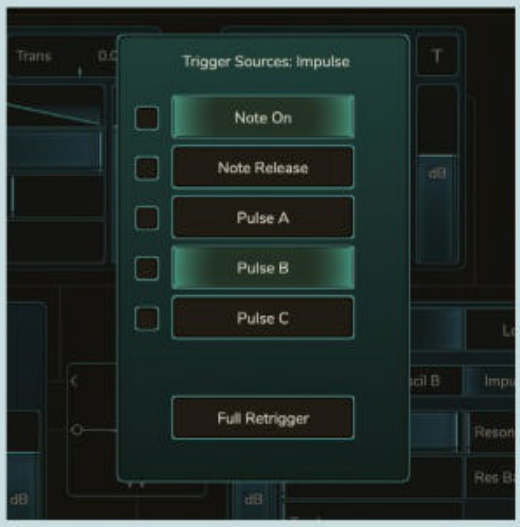
Sure, you can produce accurate-sounding acoustic basses or keys, but really this is just the starting point. The synth takes a proudly digital approach and offers tons of synthetic waveforms and impulses that can be used to excite the resonator. Coupled with a decidedly idiosyncratic user interface that eschews most physical modelling conventions, it's easy to see why this synth has become such a favourite.

## Moving onto Plasmonic

1 Initialising Plasmonic gives you a simple Pluck Impulse to activate the Resonator module. Start by changing the Impulse type to 'Piano:Brushed'.

2 Our Attack speed is a bit fast for our Impulse type, so adjust the ADSR to give the sound a smooth onset and medium length decay.

3 Plasmonic's Resonator can support multiple input sources at once. Try adding a noise source via the input buttons at the top of the Resonance module. Take some time to tweak the frequency and resonance values on the Noise module.




4 In addition to a simple note trigger, you can create echoes or rhythms by triggering the Impulse using divisions of beats or time. Click on the T button and pick Pulse B as the trigger.

5 Next, head to the 'Trigger' page on the right and activate Pulse B. By default it's set to re-trigger every 0.25 seconds – but we want variation here. Right-click to bring up the modulation menu and add a Random percentage to the trigger.

6 Finally, we want to add a bit of space to our sound – but why settle for a regular old reverb? Plasmonic's FDN Formant reverb lets you colour the instrument with subtle vowel sounds, creating an ethereal human-harpsichord hybrid.

# Getting to grips with Physical Audio Derailer

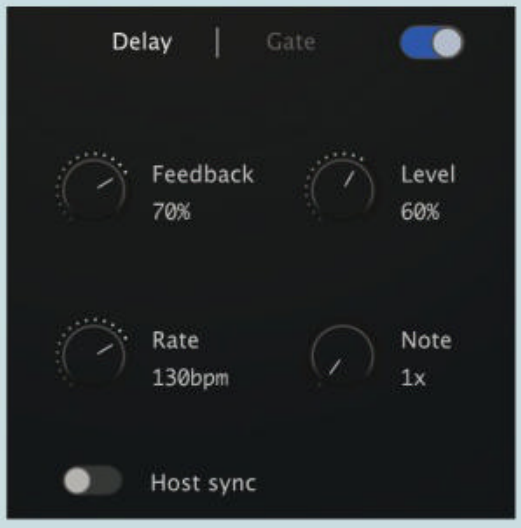
1 Derailer is split into two main sections – the Driver View and the Resonator View. In Driver View, you'll have access to all the different input sources you can use to excite Derailers unique resonance system. Start off by choosing a Bowed String.

2 Along with different input types, each one comes with a number of fine-grain parameters for tweaking the sound. Pay particular attention to the Bow Position and Pickup Position – bowing on the edge of the string will give you a much thinner sound vs bowing at the centre.

3 Derailer is all about metallic resonance – specifically a series of resonant bars that can be linked via springs to create feedback loops of vibration. You can choose which bar receives input and can fine-tune the Stiffness and Mass to determine each bar's level of resonance.

4 You have up to ten springs that can be used to link the five bars together and pass vibration between them. Each spring's position can be moved up or down the bar by clicking/dragging. We'll modify the spring's stiffness and add some non-linear resonances to make a gritty, howling texture.

5 Next up is the Gate section that lives under the Driver View. This effect lets you add some subtle tremolo to your sound and the ability to modulate LFO 1's rate with a second LFO allows you to make complex, evolving rhythms. Here, we've dialed up modulation depth for a noticeable tremolo.




6 Similarly, the Delay effect is also located in the Driver view. It can be tempo-synced if needed, and its feedback parameter does a great job of smoothing out the texture.

7 The sound we're building has a lot of higher harmonics, and we want to boost these up so they really stand out in the texture. Derailer's Overdrive section is perfect for beefing up the sound and adding some extra harmonic excitement.

8 Of course, you can have too much of a good thing. Using the filter section, we can roll off some of the more abrasive high frequencies and boost the resonances around the sweet spot – which for our sound is 900Hz. Lastly, try smoothing things out by adding an ADSR curve to the filter.

9 To finish up, let's look at the output section. For our sound, we don't want too much of the original driver and instead we can boost up the resonances that are coming from the Bars and Springs. The result is a sound that is ethereal in the top register and menacing in the low range.

# THREE OF THE BEST

## Rhizomatic Plasmonic $149

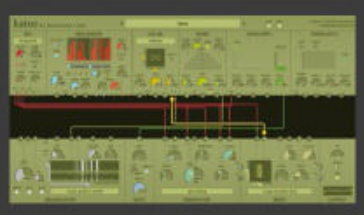
1 This synth goes deep into physical modelling, with some interesting features you won't find anywhere else, but still retains some of the functionality of a familiar, subtractive synth. The user interface comes with a bit of a learning curve, but those who want original sounds without reading a textbook will be well served.

**rhizomatic.fr**

## Applied Acoustics Chromaphone 3 $199

2 One of the friendliest physical modelers, Chromaphone keeps your head clear from distractions but still lets you get stuck into making the exact sound you're after. With version 3's new two-layers-of-layers system, Chromaphone is double the power.

**applied-acoustics.com**



## Madrona Labs Kaivo $129

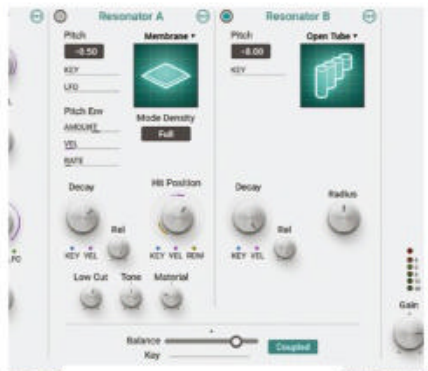
3 A combo of physical modelling and granular synthesis, Kaivo particularly opens its talents for sound designers with enough time to master it. For those without that luxury, Kaivo's presets demonstrate an impressive range.

**madronalabs.com**

# Coupled vs uncoupled resonators

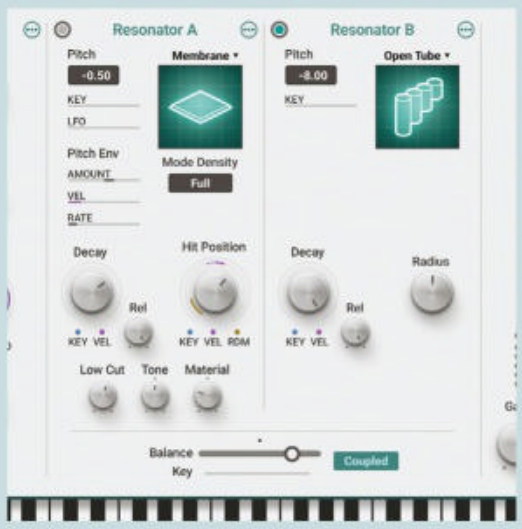
Chromaphone 3's Couple feature adds more nuance by processing the two Resonators in parallel or sequence. When coupling is off, the two resonators are activated independently, and the Balance slider controls the volume mix of the two sources. This is closer to how physical modelling synths have worked in the past.

However, when the two Resonators are coupled, they work more like a real instrument – the energy used to activate A feeds into B. Some of B's energy is then reflected back into A and you get a complex, interactive feedback loop between Resonators. In the coupled configuration, the Balance slide controls how much energy transfer occurs between the two resonators.



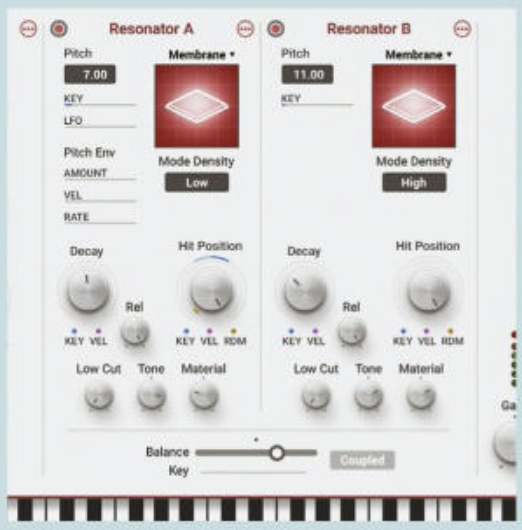

**Coupled or uncoupled? Chromaphone can do both**

# Using Chromaphone 3 to model a snare drum




**1** Let's start on Layer A's Synth page. We'll use a membrane for Resonator A, pitched down half a semitone. For Resonator B, select an open tube and bring it down a minor sixth. Make sure the two resonators are Coupled.

**2** Turn on the Noise input and give it a HP and an LP filter. Adding noise alongside the Mallet will give our snare sound a bit more 'rattle'. Take some time to tune the cutoff frequency of the filter so you have a nice bright sound.




**3** Move over to Layer B's Synth page. We want to add some extra sizzle in the top end of our sound, so we're going to have two membranes for Resonators – one pitched up a fifth and one up a major seventh.

**4** For layer B, we don't want our Resonators to be coupled, so deselect this. Next, use Mode Density to control the higher partials of our snare. The difference can be subtle, but listen for brightness when you change between Low and Full. FM

# THE CRYSTAL METHOD

Scott Kirkland has re-energised The Crystal Method following the departure of co-founder Ken Jordan. **Danny Turner** discusses his second solo outing, *The Trip Out*

Formed in Las Vegas in the early '90s by Scott Kirkland and Ken Jordan, electronic band The Crystal Method pioneered the big beat genre and planted a signpost for electronica with their platinum-selling debut album *Vegas* (1997). Alt rock/electronic crossover albums such as Tweekend and Legion of Boom followed, alongside headline shows at EDC, Lollapalooza and Ultra Miami, while their music has appeared on over 100 film, TV and video game soundtracks.

However, in 2017, Kirkland was surprised to learn that Jordan had decided to retire from making music, leaving him to continue the project alone. Somewhat inspired, Kirkland's cinematic solo outing *The Trip Home* (2018) saw a recalibration of The Crystal Method sound – a release that is now followed by *The Trip Out*, which further develops his new-found sense of freedom through a melting pot of electronic music styles and collaborations.

**Having worked alongside Ken Jordan for 25 years, how did his departure from The Crystal Method affect your state of mind?**

"Ken came to me in 2015, saying he was pretty much done with music and wanted to move down to Costa Rica with his wonderful wife to be more eco-conscious, which didn't really leave a lot of room for things like keyboards and drum machines. It wasn't like there was any animosity – he gave me his blessing to continue with The Crystal Method and made it really easy for me to buy him out of the studio."

**Working with a partner inevitably means compromise. From that perspective, was there a positive side to continuing on your own?**

"Every day I was in the studio I had one person to make happy, so I started looking on it as an opportunity to do things in a different way. Ken would come in and tell me whether something I'd worked on was cool or he wasn't feeling it and we'd move on. Now there was an opportunity to work in a different way or collaborate with other people. That was refreshing, but there were many moments where I'd find myself wishing I had someone that I knew as well as Ken to bounce an idea off or tell me something was shit before I spent another 20 to 30 minutes working on it."

**Have you found a replacement or had to learn to be more self-sufficient?**

"My long-time manager has always had an understanding of the band and its history, but six to 12 months after Ken left, I reconnected with Glen Nicholls from Future Funk Squad. We'd done a couple of things years ago, so he came over to the States and found that we could throw ideas off each other. I spent a lot of time working with Glen on the previous album, *The Trip Home*, but there are other people like Danny Lohner (ex-Nine Inch Nails) and Tool's Justin Chancellor who I can send a WAV file to in the middle of the night if I want to get feedback. I don't get too dejected when I'm working on something that doesn't pan out; those ideas often come back around to fortify a track or spark a new collaboration."

**Your latest album *The Trip Out* follows *The Trip Home* in 2018. In what way are the albums interconnected?**

"*The Trip Home* was a soundtrack to a movie you'll never see – a stylised, futuristic look at how The Crystal Method was between albums like *Vegas* and *Tweekend*. When Glen and I worked on it we had 12 to 14 tracks in various different states that fit that narrative and a few that had a lot of potential but didn't fit. We immediately thought of making a companion album called *The Trip Out*, but then I got busy on the road and the pandemic hit so the idea drifted away, although I did use *Friction* and *Let's Trip Out* from those sessions. The inspiration for the album changed to a theme of us having been at home for so long that it was time to get the fuck out, so *The Trip Out* title still seemed to make sense."

**Nearly every track is a collaboration of some sorts. Are they mostly lyrical collabs or did you take the opportunity to co-produce?**

"Some tracks were directly re-energised by working with people that I met during the process. For example, Mark Evans is a producer that I worked together with on the track *House Broken* and we thought it needed a vocal so we found Naz Tokio. For *Chemical Mentalist*, I'd stemmed the track out and started spending time on it before Mark introduced me to Wenzday who has a more modern, bass style. When she came in to hear the stems she got really excited and came up with some great ideas to help make it a driving, mid-tempo track. When I find someone that I get along with I tend to go all in and follow that journey to the end."

***Chemical Mentalist* is very grid-like in its construction and its midtempo allows you to study all the sounds…**

"I work in Pro Tools and dabble in Logic a bit, but that track was all done with Wenzday in Ableton. It actually started out with me spending a few days going back to basics with a bunch of old analogue synths and the Big Muff and Ibanez distortion pedals to make a lot of those big, growling bass sounds. Wenzday then had a lot of ideas about tightening it all up and giving those sounds a really regimented, grid-like feel that still sounded funky and rhythmic. We had a lot of fun playing with that 100bpm tempo, which is fascinating because it enables you to create something that's driving but, as you say, gives you the space to play around with lots of sound elements without them all being on top of each other."

**The vocals sound quite heavily detuned. Do they belong to Wenzday?**

"The vocal is actually based on found samples. We were contemplating bringing a vocalist in but found so much acapella content to play with from different sources like Splice that we decided not to. The main lyric is based on four phrases put together to make it sound like the words 'chemical mentalist'. We thought of replacing that too, but after a while it just seemed to fit the style of the track."

**It's practically a dubstep track. Do you think that incorporating different genres into The Crystal Method's sound is a good way to refresh things?**

"There are only so many times when you can listen to the sound of a drill that's being bored into the side of an oil tanker, and a lot of that dubstep sound is definitely for the youth, but I hear what you're saying. A lot of that stuff has become passé, but there are definitely elements within that genre that can add something new if you can peel them out or frame them in a different way. On our self-titled *The Crystal Method* album back in 2014, the two of us got caught up in the middle of the whole rise of EDM and all that nonsense with bottles of tequila and vodka rolling around venues with firecrackers on top of them, so I'd love to go back in and rework that album someday."

**Another example of incorporating something new to your sound is the track *Friction*, which has nu-metal guitar riffs. Are those real or sampled?**

"Jim Davies, who was in Pitchshifter and The Prodigy for many years, played guitars on that one, but the track is weird. It has real guitars but there's also a great iPad additive synth called Cube that I had a lot of fun playing with because you can manipulate sounds on the fly and it has this really cool x, y, z crossover function. *Friction* is a crazy combination of live guitars, analogue synths and in-the-box and app synths – one of the guitars actually reminds me of an old John Lydon riff. That was another track that I couldn't find the right vocal for, so we just kept it as is and decided to let people make their own interpretation."

**When you bought out the Crystalwerks studio from Ken, did you switch things up much?**

"Although we used some hardware synths, most of our last self-titled album was made in the box and so I really wanted to change things up in the studio. Ken was more the engineer and I'd be at the back of the room grabbing and hooking up synths, so it was designed for two people. We had a D-Command Pro Tools setup, which was a paperweight really, so I moved the patch bay and got myself a Chandler mini mixer to route my synths through and bring everything a lot closer to me. I wasn't happy with how the room sounded either so I got a Trinnov correction system to help me understand what the room was doing."

**How does the Trinnov Optimizer work exactly?**

"The room was really well soundproofed but, because it's so big and has high ceilings, I was having a lot of problems with bass traps and other frequencies – so much so I was thinking about selling the studio. I knew that Sonarworks made room correction software for DAWs connected through a master bus, but I was always sceptical of that technology because the concept of my computer calculating all the information it normally does, then doing it again right before it goes out, seemed like it might cause problems with delay. In the end, a friend of ours from Vintage King recommended the Trinnov, which comes with a really cool, specialised mic with four individual diodes that you set up in a sweet spot and then calculate a gamut of different sound frequencies through a totally separate unit that becomes your room correction and monitor source."

"I REALLY WANTED TO GET BACK TO PLUGGING IN MY OLD SYNTHS AND ANALOGUE GEAR, EVEN THOUGH THEY'RE UNPREDICTABLE AND YOU ALWAYS HAVE ISSUES WITH THEM"

**How big a difference did that make for you?**

"Considering the amount of years we've spent working here, when I saw the curve and how the standing waves were affecting the sound, it was remarkable. The room sounds awesome now, and although I still have to finesse the Trinnov and make certain adjustments, I love the idea of being able to pull it out of a little flight case with a pair of monitors and tune a room. It's been a godsend and one of the best buys I've made over the past 15 years."

**What other production changes did you make?**

"I really wanted to get back to plugging in my old synths and analogue gear, even though they're unpredictable and you always have issues with them. I have a Memorymoog and one of the oscillators is always drifting. I spent a lot of time getting it fixed but finally just accepted that when you move the faders around, it's not always going to sound the same as before. That really put me more in the moment, because now when I start working with gear, I feel I have to immediately hit record."

**Is that more in tune with how you used to work?**

"It's definitely what we used to do back in the day. We didn't have digital audio back then;

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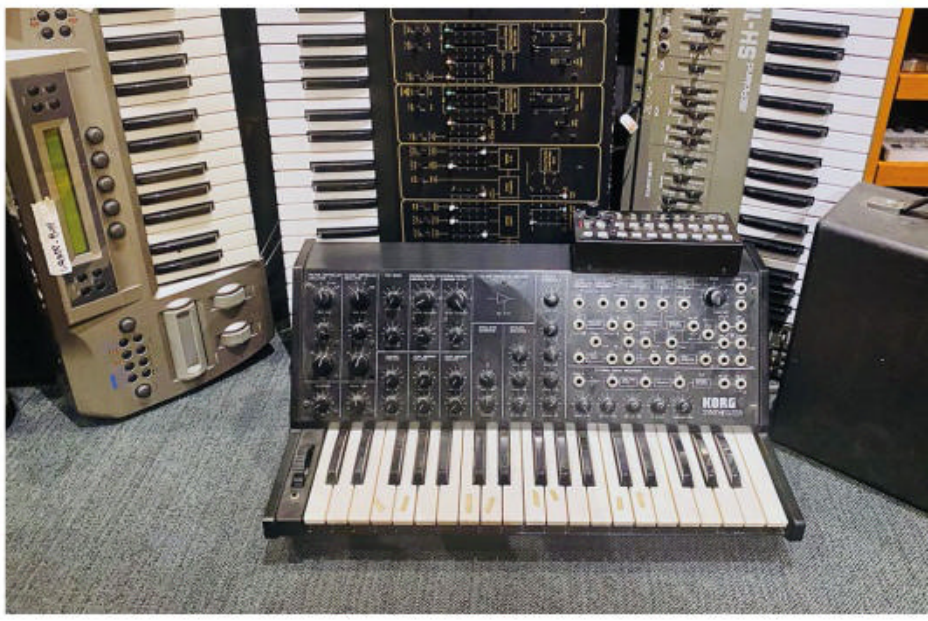
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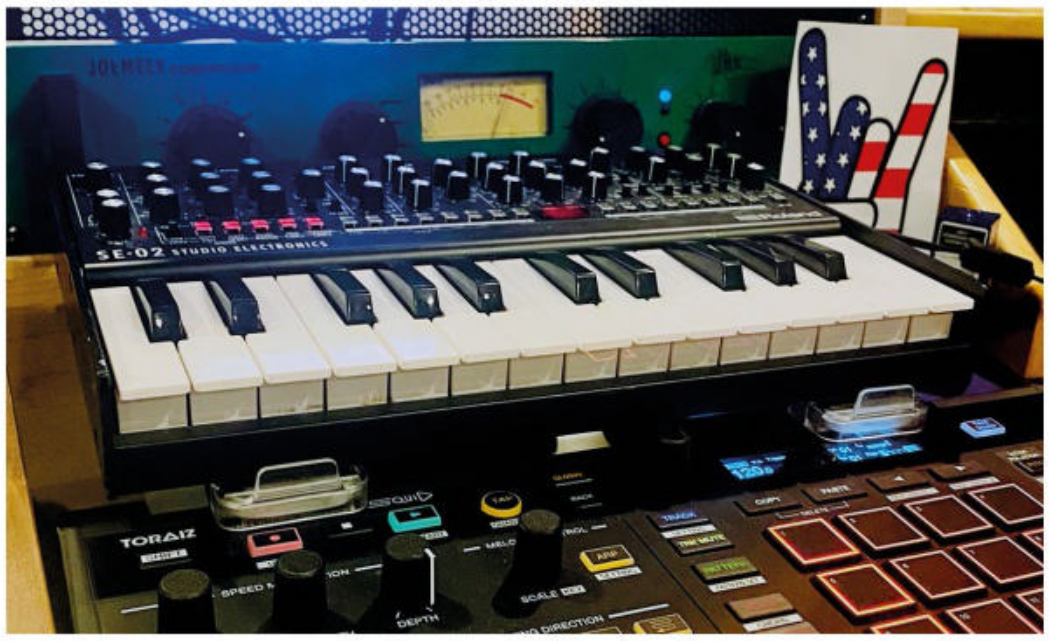
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we'd run a DAT while we were messing around with stuff, go to lunch, get back and find something cool on playback. When we were working with Tom Morello on the *Tweekend* album, he played the riff from the track *Name of the Game* while he was warming up. We asked him, 'What was that!?', but he couldn't remember what he'd played. Lo and behold, he found it again and then we ended up working on his idea overnight, so I just really wanted to come back to that concept of plugging something in, adding a couple of pedals and hitting record."

**Do you have a specific outboard chain?**

"Because I have so much gear going back to the early days mixed with modern stuff, I really use a whole hodgepodge of different methods because certain things just feel better going through certain outboard. I'll typically run drums through my API 512c mic preamp, bass through the Shadow Hills amp and guitars through the Purple Audio Action 500 Series compressor, or I might use the Avalon VT-737 channel strip for vocals. When I've been working on things outside of the box or sending stuff through my Chandler mini rack mixer, I'll mostly use the Rupert Neve Portico II master bus for processing."

"I'M ALWAYS A SUCKER FOR SOME FLASH SALE ON PLUGINS, OR I'LL GO DOWN THAT RABBIT HOLE OF WATCHING SOMEBODY WORK ON SOMETHING JUST TO FIND A NEW TRICK"

**In Ken's absence, have you been forced to learn more about the engineering side?**

"I'm not the best engineer because I never took any classes. There've been many times when I've been working on something with my old Mackie mixer and not had a clue how to get it sounding right, so Ken would make sure he recorded it before I did my 'engineering' on it *[laughs]*. In the old days, we worked on Digital Performer, which I loved and would probably still be working on today if they'd made it more compatible when it came to automation."

**On the software side, the Acustica Audio Gainstation is touted to be a fairly unique device for sound mangling. Is that your experience?**

"I'm always a sucker for some flash sale on plugins, or I'll go down that rabbit hole of watching somebody work on something just to find a new trick that will make my process work in a different way. I find that software like Spiff and Soothe 2 are fantastic for carving out or accentuating sounds, especially when you're using a lot of analogue distortion, but I'm always about finding the right sound first. I came to the Gainstation quite late – the producer VAAAL sold me on that, but my 2016 iMac didn't like the software too much. He has a 2018 MacBook Pro but when I tried to open up one of his sessions it just said, 'Nope, I'm not doing that'."

**Is there any sound tool that's been a constant for you over the years?**

"The Roland Jupiter-6 has been on every album. It's one of my favourite synths and would definitely be a desert island choice because it just fits the sound of the band. It's dirty, and can be pretty at times, but I love the cross filter frequency circuit. If you route a crazy limiter/compressor and plug a quarter-inch into the sustain pedal at the back then the whole synth becomes puffed up – like a puffer fish! I was worried that doing that would fuck up the synth somehow, but it makes a truly phenomenal sound. If you check out the track *Watch Me Now* you can hear this ridiculously distorted fat sound right at the end of it." FM

**WANT TO KNOW MORE?**

The Crystal Method's new album *The Trip Out* is out April 15 Ultra Music. For more information, visit **thecrystalmethod.com**

Main Attrakionz, named kings of the cloud rap castle before there even was one

# Cloud rap

## Drawing from trap, chillwave and lo-fi sounds, cloud rap is a genre which coexists happily alongside its influences

There are certain genres – drum&bass or dubstep, for example – which stand alone, almost purposely in defiance of everything around them. Other genres are happier to mix and interact, acknowledging that dividing lines are often blurred. Cloud rap fits squarely into the latter category, drawing on and coexisting happily alongside a number of genres like trap, lo-fi and chillwave.

You'd be forgiven for assuming that the name cloud rap had something to do with cloud storage or SoundCloud. There is an element of that (more on which later), but the answer is somehow much more in keeping with the often weird and wonderful sound of cloud rap. The story goes that in a 2010 interview with Oakland rap duo Main Attrakionz, blogger Walker Chambliss referred to rapper Squadda B as "the king of cloud rap". Chambliss reportedly had misremembered another blog post in which it was reported that Squadda's fellow Bay Area rapper Lil B had shown Cocaine Blunts blogger Noz a CGI image of a castle floating in clouds, proclaiming: "That's the kind of music I want to make." Nevertheless, Chambliss inadvertently coined the phrase.

Best known for 2006's minor crossover hit *Vans* as part of skate rap group The Pack ("Got my Vans on, but they look like sneakers…"), Lil B was a walking meme almost from the word go. His heavily tattooed look, surreal lyrics, quirky fashion sense and slang ('swag', 'based') helped define the slightly tongue-in-cheek style of cloud rap. Drawing on the classic 808 drum patterns of southern rap, the blissed out synths of chillwave, lo-fi production values and a creative approach to sampling, cloud rap could be seen as the weirdo cousin of the more hardcore trap sound from Atlanta and drill sound that was emerging from Chicago.

The first production superstar of the scene was New Jersey's Clams Casino, who linked up with Lil B over Myspace in 2009. He went on to produce for cloud and cloud-adjacent artists including A$AP Rocky, Mac Miller (*Youforia*, 2013), Schoolboy Q (*Gravy*, 2014) and Lil Peep (*4 Gold Chains*, 2017). Lyrically, the themes of cloud rap tend to skew significantly less gangsta than trap and drill, with any drug references more likely to be about getting high than selling. In the case of Swedish teen prodigy Yung Lean, an openness about teenage angst opened up a uniquely emotional new take on rap.

The diverse geographical backgrounds of its key protagonists hint at the fact that cloud rap was one of the first true internet-era genres, far less concerned with local scenes than hip-hop which came before. The emergence of cloud rap coincided with the growth of file transfer platforms like Dropbox (launched in 2008) and WeTransfer (2009) as well as music-based social platform SoundCloud (2007). It says a lot that Lil B and Clams Casino began a prolific string of collaborations in 2009 but didn't actually make music together in person until *Based God* featured on 2016's *32 Levels* album.

Although cloud rap was one of those classic genres where some of its most successful protagonists – such as A$AP Rocky – felt uncomfortable being pigeonholed in the genre, it had a huge influence on other styles of rap. The related mumble rap scene was later often known as SoundCloud rap for its use of the platform. Similarly, mumble rap went on to evolve into the even more personal, openly emotional emo rap scene, which incorporated elements of instrumentation from punk and rock, and an even clearer lyrical focus on mental health issues.

Cloud rap has only been recognised as a genre for around 12 years at this point, but already feels like a fixture of hip-hop and the broader music scene in general. FM

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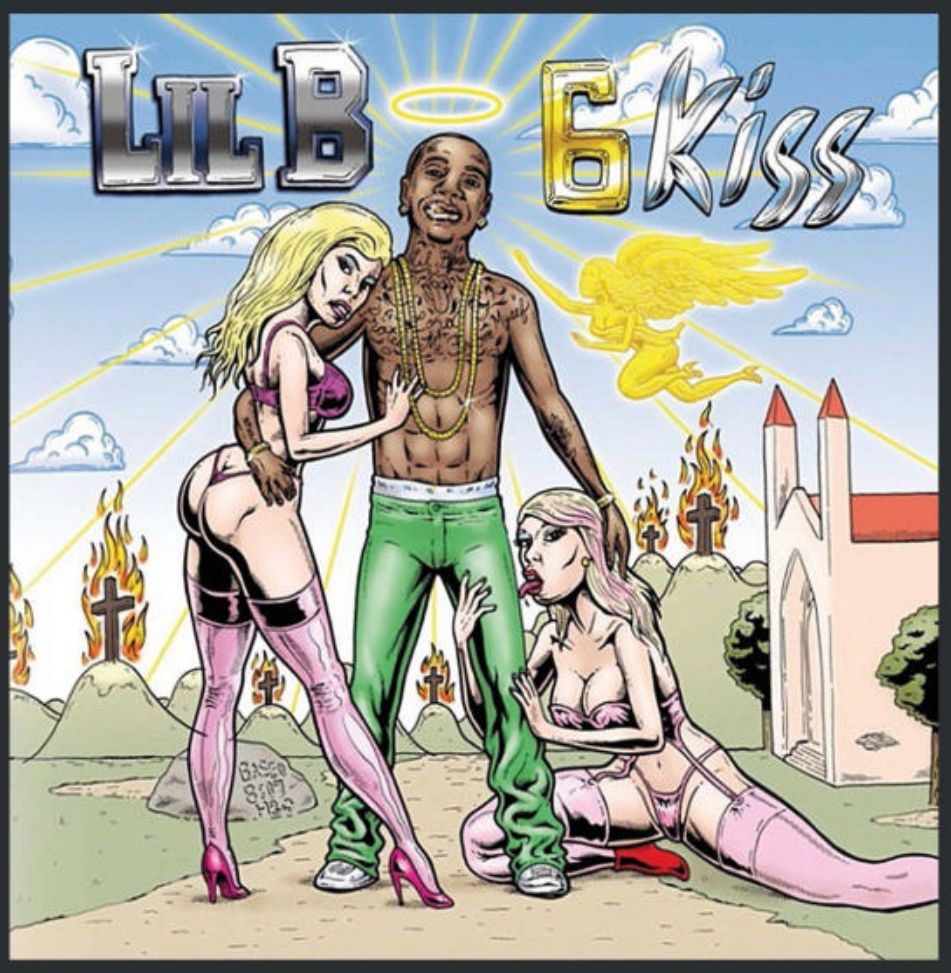
# Three cloud rap classics

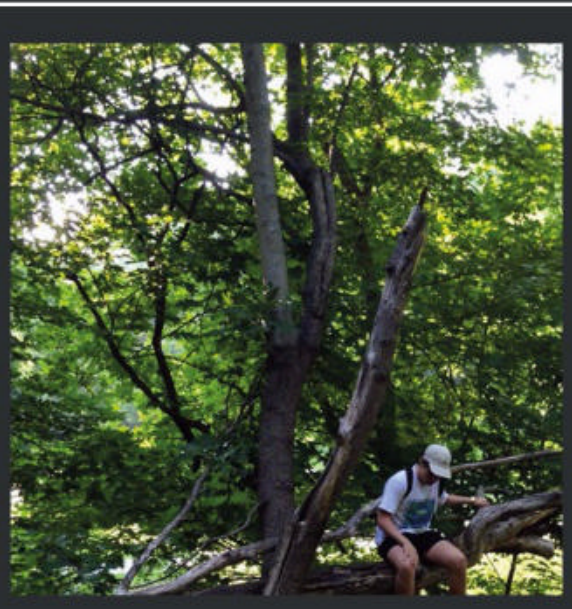
## Lil B – *I'm God* (2009)

Always one of the weirder cloud rappers (in a good way), Lil B's first collab with Clams Casino saw him assert his status in the game, via his own inimitable style: "My new name is Based God, ice cream paint job." It's all underpinned by a sultry, downtempo Clams beat built around a sample of Imogen Heap's *Just For Now*. English singer-songwriter Heap was an unlikely muse for cloud rap producers, not least Squadda B of Main Attrakionz, who sampled her on tracks including *Legion Of Doom*, *Fuck The World* and *Blood Money*.



## A$AP Rocky – *Demons* (2011)

Speaking of which, Clams found further inspiration from the same sample source for *Numb*, a track from his 2011 *Instrumentals* showcase. Rising superstar A$AP Rocky jumped on the beat for *Demons*, released as part of his debut mixtape, *LIVE.LOVE.* A$AP. Rocky's style evolved in due course, but the cloud rap calling cards are there on his debut, including the classic *Peso*.



## Yung Lean – *Ginseng Strip 2002* (2013)

Written when he was just 15, *Ginseng Strip 2002* went viral on YouTube and established Stockholm's Yung Lean as a new superstar in the cloud rap scene, spearheading the Sad Boy movement defined by its lyrical focus on depression, anxiety and drugs. The flow on *Ginseng Strip* is rudimentary and childish at times ("Slitting wrists while dark evil spirits like Slytherin slither in with tricks, I'm sick"), but Lean's monotone delivery and nihilistic teenage bars over trap-inspired beats helped define the scene and inspire emo rap.

# MIKE PARADINAS

Polymath Mike Paradinas returns his µ-Ziq alter-ego to the fray with the 25th anniversary reissue of *Lunatic Harness*. **Hamish Mackintosh** talked to the Planet Mu main man about his µ-Ziqal journey

Many electronic artists start their own label but not many manage to sustain the sheer quality, innovation and eclectic roster that Mike Paradinas has achieved with his beloved Planet Mu imprint. As well as hosting his many projects, be it µ-Ziq, Jake Slazenger, Tusken Raiders et al, or providing a home for a wealth of exciting electronic talents from Venetian Snares, Tim Exile, Konx-om-Pax and countless other electronic luminaries.

This year, Planet Mu celebrates its 25th year of serving the electronic music cause and µ-Ziq has a slew of exciting releases planned throughout the year, all based around this summer's re-release of his groundbreaking 1997 album, *Lunatic Harness*. All in all, it seemed like the perfect time to catch up with Mike Paradinas and talk µ-Ziq, Mu and beyond. All hail Planet Mu…

**There's a veritable avalanche of new and re-imagined µ-Ziq stuff coming out this year… what inspired this?**

"I don't know…or maybe I don't want to spoil it by thinking about it! There's plenty of material to keep me going til next year. There are five things coming out on Planet Mu this year then something on another label next year. I don't really know what started it but I suppose if I think back to *Scurlage*, the album I did for Analogical Force, which was released in September 2020 there was one track, Preston Melodics, that started it all off again. I've always been working on the occasional track but that turned out so well that I thought I still had some ability. I've spent so much time just running the label, dealing with artists or looking after my kids that I didn't know if I could do anything. That coincided with my wife going to work full time and the kids back at school so I had a bit more time and all this stuff came flooding out. I found I was able to write quite a lot last year."

> "I JUST DIDN'T REALLY HAVE THE TIME TO BE A FULL-TIME PROBLEM-SOLVER IN THE STUDIO. I JUST WANTED TO SIT DOWN AND WRITE A TRACK"

**Some of the new EP tracks are inspired by your brilliant 1997 album, *Lunatic Harness*. What did you think when you re-explored your old work?**

"I hadn't listened to *Lunatic Harness* for a good while and, obviously, we're putting it out again in July, so I was re-mastering some of the tracks from the original. There's an EP *Brace Yourself*, which only came out in America and it's never come out digitally as the mastering didn't match the other tracks. While I was doing that, it inspired me to get back into doing some tracks with breaks again. This was after I'd done *Scurlage,* as there aren't really many breaks on it. I got a folder of breaks from Konx-Om-Pax, who's on the label, so I started using some of them in Alchemy in Logic or literally just cutting them with the scissors on an audio channel in Logic. Then I'd have different channels with different pitches so I could drag little bits up and down or have a filter, a flange or just pitch them up or down."

**Seems second nature to people raised on DAWs but that collage-style of assembling tracks was a lot harder back in 1997?**

"Yeah, I had to think of a totally different way to do it than I used to. When I did *Lunatic Harness*, I was using a Casio FZ-1 sampler that I'd just map everything onto and if a sample needed an effect I'd have to sample it with the effect on it! Obviously that was all sequenced to an Atari. It was actually difficult when I started writing on computers with softsynths and plugins. It took a long time to get to the level that MIDI instruments were at. I do everything on the laptop now due to lack of time. I just want to open it and start working."

**As 'primitive' as the early Ataris seem now, they were incredibly tight for working with MIDI, weren't they?**

"That was it. In around 1999, I first moved from using Atari with Cubeat (https://archive.org/details/cubeat-2-disk-atari-st) and Cubase to working with an Apple and Logic 8. I'd be trying to use a bit of audio; maybe put the drums in audio and have everything else still MIDI but it would never match up. It was a little more work than necessary back then. I had a young family back then and just didn't really have the time to be a full-time problem-solver in the studio. I just wanted to sit down and write a track. Maybe that's why things slowed down a little after I left the Atari."

**Do you still have any of your old hardware that you used back then?**

"It's all on the laptop now but I have kept one or two things. I sold a lot of things but held onto my Nord Lead, Nord Mini-Modular and a Nord Wave. I've still got a few drum machines, including my Alesis HR-16. I did buy one of the new Korg MS-20s recently, as a friend was selling it cheap. They sound great and I'll use it for ideas but always record it and use that as a sample rather than running any MIDI live."

**The MIDI timing has to be impeccable really, doesn't it?**

"With jungle or fast music it has to be, yeah."

**With the new, *Goodbye* EP, it feels like you're giving props to jungle and trying to take it new places too?**

"*[laughs]* No I'm not really trying to take it to new places, I'm trying to take it to some old places! I certainly wouldn't say that I'm doing anything better than was done by the originators of jungle. It's all very much done with homage to them. So there's the EP and the album, *Magic Pony Ride*, *Lunatic Harness* re-issue, an album of remixes then another 9-track EP/mini-album, *Hello*, at the end of the year, which is more cut-up jungle stuff. It's getting released this way as I wanted it to mirror what I released in 1997."

**Have EPs become more vital again of late?**

"With my label head on, I'd say that albums are still selling a hell of a lot more and people often do still tend to ignore EPs but I'm hoping that by making them a bit longer, with more tracks, then they'll be seen more like an album. In terms of streaming, they're called an album if they're over four tracks in length, I think."

**What inspired you to revisit jungle?**

"Some of it was inspired by the 1992 late hardcore/early

jungle sound. Specifically, there was a record called *Raw From China Vol 2*, which I believe all originated from the De Underground record store in Forest Gate. The track had this choir sound and I was just messing around with that in Alchemy and then I slowed it all down and warped it and it sounded really interesting."

**Any thoughts on how electronic music has changed from back in those days?**

"*[laughs]* Now that's a big question! I think money has definitely changed the dynamics of the scene! Now, there's very little expectation from anyone to make much money… if any. The artists I sign to the label, for instance, hopefully you'll make a little bit but there's certainly no living to be made from it nowadays. Back in the '90s there was an expectation that, if you had a record out, you could maybe give up your day job. I think one other aspect is how accessible making electronic music is now and how many people are now creating it. That sometimes makes it harder for me to sort out what's good from what's not."

**That throws up an interesting question of what you're looking for when someone sends you their music wanting to be signed to Planet Mu?**

"I literally don't know! Generally, it's a case of listening to something until I think it's great in some sort of way or 'I've not quite heard anything like it before…and it's good'. *[laughs]* There's also plenty of 'I've never heard anything like this before and it's shit!'. It's a bit nebulous and hard to explain but, generally, if someone is in it for the right reasons and making music to express themselves. I think you need a bit of a thick skin to be in the industry for any length of time but you also don't want to rip people off because word gets around very quickly."

**You've used numerous alter-egos to release your music over the years, is that to allow you more freedom to straddle genres?**

"Sometimes… there was an element of that with the Jake Slazenger project, yeah. I think Tusken Raiders is becoming more of a dancefloor thing at the moment. It used to be more a case that the different labels would want different names so that there would be no cross-over with promotions but labels don't care so much about that now. These days µ-Ziq is my main thing."

**So, is all of your µ-Ziq stuff done and mastered in the box nowadays?**

"The Planet Mu stuff is all mastered by Beau Thomas at Ten Eight Seven Mastering. He's got a really good ear and he gets it just right every time. I have been doing my own mastering for stuff I self-release… some Tusken Raiders EPs on Bandcamp and that sort of thing. I have done some mastering for a few things that have come out on Planet Mu, some of the digital-only releases where we couldn't splash out on professional mastering."

> "I OFTEN DON'T LISTEN TO WHAT INSTRUMENT HAS COME UP, JUST LOAD IT AND TRY AND EDIT MY OWN SOUND OUT OF IT."

**What do you use when you do it yourself?**

"I mainly use iZotope's Ozone but I do find it very heavy-handed so I put levels up quite gingerly, then do A/B comparisons. I use a few of the Apple/Logic plugins too and I still use WaveBurner on one of my old computers. They got rid of it from Logic but I've still got a Mac with El Capitan on it so I can run WaveBurner. You can put it all together as a CD and burn a RedBook master but I actually use DSP-Quattro to do them and pop the already mastered files into that. I have been thinking about getting Steinberg Wavelab Pro as I figure I'm going to have to replace WaveBurner at some point."

**Over and above the mastering side of things, what plugins do you use within Logic?**

"As I said earlier, I love Alchemy. It's just so easy to use. A lot of the Tusken Raiders tracks are done just done on Alchemy without any sequencing on Logic, just using the arpeggiator… there are actually two arpeggiators in it, which means you can do some really interesting things with it. I've been putting breaks samples into it and there are four different types of sampling you can use once they're in there. The granular does magic. You can really take things apart and slow them down although I think it should be used sparingly. I've been using Ultrabeat in Logic and I love the Drum Machine Designer interface which lets you create your own kits. There's a Mellotron that I like in it too. What I do is go to the search part of the library to see what comes up. I often don't listen to what instrument has come up, just load it and try and edit my own sound out of it."

**Any other go-to things?**

"I've used a lot of exciters on these new projects. On the master channel I tend to use Pro-Exciter, Linear EQ and Multipressor to get things sounding right. I used to use Auto-Filter quite a lot because it gave resonance and a bit of mid to a track to just make it warmer."

**How did you get your first musical break?**

"I didn't really know anyone to ask about getting stuff released although I'd occasionally meet people in record shops and give them tapes and stuff. The first people that said they'd put a record out with me were Tom Middleton and Mark Pritchard who were doing Evolution through a distributor that went bust just before they got the record out!"

**What are your ambitions for Planet Mu?**

"Well at the moment there's all this manufacturing delay, which means we've got a lot of cash tied up in manufacturing, which we can't get back. So, that's the problem at the moment to try and keep going while we haven't got our stock to sell."

**Delays getting vinyl pressed at the moment?**

"Yeah, there's a 7-8 month wait. It's starting to get a little better with certain pressing plants but there are others that have problems. I've got *Magic Pony Ride* manufactured already but there are things we sent off two months before that we still haven't got! The Jlin album, for example, which was meant to come out in December, was put in for manufacturing in June and still hasn't arrived. We can't get any word from the manufacturers! We've tried to use a few different manufacturers to spread the risk, I guess." FM

**WANT TO KNOW MORE?**

*Goodbye EP* is out now on Planet Mu. *Magic Pony Ride* album and 25th Anniversary edition of *Lunatic Harness* to follow later this year. More from **https://planet.mu**

# Dreadbox effects pedals

## from €145

Modular-friendly stompboxes from Greece with Japanese names? We have questions. **Robbie Stamp** asks them

**CONTACT** **WHO:** Dreadbox **WEB:** dreadbox-fx.com **KEY FEATURES** **I/O:** 6.35mm (1/4") TS jack (audio), 3.5mm (1/8") jack (CV) Digital Processing **(Darkness only)**: 32bit 48kHz, **BYPASS:** CMOS buffered **CURRENT DRAW:** 85mA **(Kinematic)**, 100mA **(Komorebi)**, 90mA **(Lethargy)**, 150mA **(Darkness) POWER:** 9VDC centre negative, no battery operation **DIMENSIONS:** 140 x 100 x 56mm **WEIGHT:** 525g **PRICING: Komorebi and Lethargy,** €160, **Kinematic,** €145, **Darkness,** €209 (All prices are ex.vat.)

## THE PROS & CONS

**+**

Wide ranges across all parameters for maximum creativity

**CV inputs and outputs for more flexible modular/ synth/pedal setups**

Simple control structure with plenty of space for hands-on playability

**–**

**Darkness is a little noisy even in bypass**

No CV for Darkness

Dreadbox are expanding their range of synths (Nymphes and Typhon) and Eurorack modules with a set of five stompboxes, four of which are currently available. All four pedals reviewed here share control layouts and three (all analogue) sport a trio of CV in/outs for integration into modular setups as well as with other CV capable pedals. The odd one out, Darkness, is a digital pitchshifting shimmer delay which features stereo I/O and processing. The jacks are rear-mounted, good for desktop use, ie bunching them up close to maximise space and hands-on range. The enclosures are relatively light, but they'll easily withstand the rigours of most players' footwork when on the floor. The footswitches have been sensibly selected to be hand or (socked/bare) foot operable without too much force, which is essential for the modular/desktop users. On a final general note, the Dreadbox effects are powered by standard 9VDC centre negative supplies and do not offer a battery powering option.

## Kinematic

Kinematic is a band-boosting VCA compressor and envelope filter. The two modes are switchable above the Envelope knob, which is responsible for the ratio "factor" in compressor mode and auto-wah depth in envelope filter mode. In compressor mode, the band boost frequency range is wide, taking in everything from sub-bass to airy whistlings. Parking the Filter control at its lowest point keeps the band boost clear of most sources' audible range, allowing the Kinematic to act solely as a compressor. For heavy bass it's worth parking at the other end of the dial to avoid woofer blowing or distortion.

The compression effect can crush percussive sources to a pulp, but it's also easily set to put a juicy squeeze on guitars, beats and bass. Bringing the Filter control into play can be shocking if unprepared for a heavy lift, especially in the low end, but with some lightness of touch it's simple to lift part of an instrument's range and then hammer it back down with compression. There is plenty of makeup gain to pull the flattened signal back off the floor, but Kinematic also has one more trick up its sleeve before breaking out the envelope filtering.

The Drive knob wheels in a diode clipping stage after the band boost/ filter and compress stages. In small amounts, it will add bite to a drum line or growl to the front end of an attack-heavy synth, and as it's rolled in, harder basses can bathe in a fuzzy glow while high guitar lines can get a little Isley lead magic.

Flipping to the envelope filter mode turns the compression into the shaper for a 12dB/oct lowpass filter. Instantly it's a Bootsy world, and yes, Dreadbox are 100% correct in recommending this for bass guitar. Despite there being no resonance control, the filtering effect can be easily set to either tickle the highs or go full auto-wah. The speed is relatively slow so it won't track a high tempo 'wukka-wukka' rhythm guitar part hit for hit. It does lather the source in... errr... sauce in a way not dissimilar to a Mutron III on its low-pass 'up' setting. The Filter control, again, has a healthy sweep range to allow for any number of tone-shaping duties.

The CV jacks provide external control of the Filter and Level parameters as well as sending out the envelope generator signal over a hefty 7V range. These enhance the Kinematic's utility and creativity.

## Komorebi

This analogue BBD flanger/chorus can sit still as a comb filter at one end of the Amount dial, whilst at the other its three waveform (ramp up/ down and triangle) LFO is modulating the signal into extreme contortions. Between these two points is a rich

## THE ALTERNATIVES

**Fairfield Circuitry Long Life** £299
An oddity, much like the Kinematic, which combines a parametric EQ with a tilt and CV inputs to create tone-shaping and full on wah-filter stylings, and some zener diode soft clipping on the side
**fairfieldcircuitry.com**

**Mu-Tron Phasor III** $279
A modulation classic resurrected by Mr Mu-Tron, Mike Beigel. 4- and 6-stage phasing with a sine or square wave LFO and CV/expression I/O in a compact enclosure
**mu-tron.com**

**Chase Bliss Dark World** $349
It may be mono but there are two reverbs to blend, one dark/shimmer style, the other a spring/plate/hall type. Flexible programming options with CV/expression input, plus MIDI
**chaseblissaudio.com**

field of yawing and chiming. The Feedback control can as easily render the BBD into sharp metallic whines as it can deliver that extra depth to ring out the edges of the delays. The 40ms end of the delay range pushes the effect into the audibly echoic, and when served with subtly it can lift an instrument like a short reverb, but of course it can wreak havoc if that's what suits.

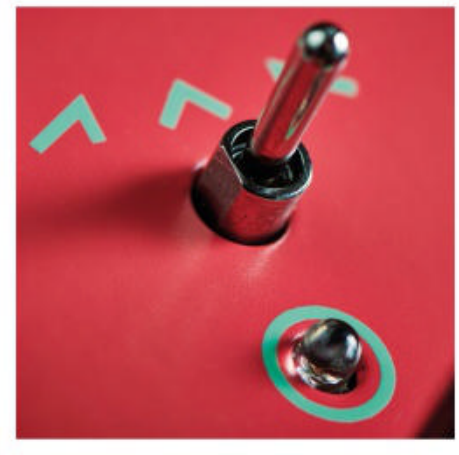
The LFO range is in the modular synth bracket allowing for anything from near-tectonic modulation rates to full on FM ringing and zinging. The CV inputs for the Static (delay time) and (LFO) Rate expand the Komorebi into a deeply useful and creative modulation effect. This doesn't have to take the form of chaotic atonality; with care it can create complex choruses and rich flanges that will keep you coming back.

The triangle LFO waveform will probably do most of the heavy lifting, but ramp up and down settings can add pulsating modulations that can have their inevitable clicky sharp edge tempered by rolling back the Amount knob towards 'Static'. Up in the FM range, the waveforms are worth jumping between to conjure different (in)harmonic tones. To ice the cake, Dreadbox have given users the LFO as a CV output for creating synchronised effects, providing LFOs where there are none (eg the Kinematic) and re-modulating itself.

## Lethargy

Providing the other modulation staple, phase shifting, is Lethargy, which is near identical in range and operation as Komorebi: swap the delay time for degrees of phase shift (Manual) and the ramp waveforms for a square wave. Of course it is a different effect and is possessed of its own character, but similarly this character is multifaceted. With the LFO out of the picture you can handcrank the Manual and Feedback controls to notch the source's tone in myriad ways, from the slight to the mighty. Winding up the Amount knob towards the LFO end slowly removes the effect of the Manual control, but between the two poles is a gorgeous realm of swishy phasing, providing the LFO isn't racing away, with opportunity for hands-on adjustments to highlight phrases or rhythms.

Lethargy is in fact an able machine that's quick to veer from classic phasing into the hinterlands that obsess much of the modular synthesis community. It can do psychedelic for days, but kicking in the square wave LFO and spinning it up to the FM end allows it to go fully 'bad trip'. As the manual says, it does get clicky with the square wave so it may spend less time in this mode but it's not to be underestimated, especially when dealing with rhythmic sources or overtly distorted ones, as clicks are easily lost in a sea of inharmonic crackling.



**CV I/O: (K/K/L only)** Two inputs and one output (LFO or EG) at ±5V via 3.5mm mini-jacks for modular synth and other stompbox cross-modulation purposes

**STEREO I/O: (Darkness only)** The CV capabilities of the other three pedals are dropped in favour of full stereo input and output, though it is also mono compatible, eg for guitar/amp setups

**SWITCH AND LED: (K/K/L only)** The toggle switch and associated LED for LFO waveforms on Komorebi and Lethargy and envelope follower/ compression on Kinematic

**DUAL USE FOOTSWITCHES: (Darkness only)** Holding either the On/Off or Hold footswitch accesses second and third parameters for most of the knobs

The OTA-based, eight-stage phasing delivers the throaty, vocal gurgling that can give the most pedestrian guitar chops a funky swagger, and this alone makes Lethargy an impressive phase shifter. Adding in the hyped up LFO range, the CV inputs (Manual and LFO Rate), the slightly hair-raising Feedback control range (careful what you dial) and the ability to spin the LFO back into itself, provides a tool far more powerful than the average phaser. This is the ground where old school pedals and the new(ish) modular synth aesthetic meet; loads of rich modulation amped up into something capable of satisfying the experimental mentality.

## Darkness

It's important to note that despite its title this stereo digital reverb is not perpetually dark, it can just go there if necessary. The ±12 semitones of pitchshifting can take the mood to a lightless place as much as it can produce a fully optimistic shimmer and shine. The fundamental reverb, a pair of Sinevibes algorithms, are controlled by the Spread and Decay pots, and these set the size and length of the reverb. In the middle, the Mix knob does exactly what you'd expect. So far, so simple. Things start to wander into more esoteric territory with the Control pot and its associated Mode switch which toggles between its two uses. Initially this means the pitchshift and the mix of the pitchshifted signal. With this set of parameters at your fingertips, Darkness produces reverberations of a distinctly non-real, or maybe hyper-real, quality. It is not a smooth diffuse sound, although it's not rough either. The spaces it creates can be as musical as they can be dissonant, depending on how much pitchshifting is applied. Huge, cavernous spaces can be built up and fed as pad sounds of their own, but at the shorter end Darkness can give depth and space to dry instruments, especially percussive ones.

> "Loads of rich modulation, capable of satisfying the experimental mentality"

Darkness is actually three layers of controls with 'pages' two and three accessed by holding either the On or Hold footswitches. The second page carries parameters for the reverb filter (LPF and HPF), an LFO for wobbling the reverb and a tails on/off option for bypassing. The third page brings in gating with threshold, attack and release settings. This latter page spins Darkness off into something far more playable or reactive, though with this comes the potential for barely controllable spluttering, which may be your aim, who knows?! Massive reverbs can be tucked back from the start of notes and phrases, and long tails can be chopped back without sacrificing the fast build-up intensity of ramping the Decay knob. For percussive or staccato instruments this can be dialled in as something more akin to a delay.

Darkness is a little noisy, even when bypassed, so it may need to have a full bypass in a pedalboard context, especially if followed by compression and overdriving gain stages. When it's doing its job the noise is not an issue, and in a modular synth setup it'll fit right in.

This is an effect for the experimental, the curious and those who don't want another faithful recreation of a Lexicon 480L. This is a thoroughly modern granular pitchshifting reverberator that sounds otherworldly, with a depth of control that will be hard to exhaust in a hurry.

There's a great sense of purpose across the first four of this new pedal range, so roll on the release of no.5, Raindrops, a stereo delay. The new releases bolster Dreadbox's experimental credentials, with each model offering the user/player the opportunity to take an essential process, be it compression, flanging or reverberation, and spin it into something more arresting. They come at a price that balances affordability with a lack of obvious compromise in build and sonic quality. Bravo! FM

## FM VERDICT

# 8.7

**Dreadbox have created four pedals that straddle stompbox and modular synth worlds with class, and at a good price too**

# SSL BiG SiX £2,199

Is the latest SSL mixer worth the step up from its little brother, the SiX? **Rob Redman** takes a look

**CONTACT** **WHO:** SSL **WEB:** solidstatelogic.com **KEY FEATURES** Four SuperAnalogueTM stereo line level inputs with dual mono switching, up to 18 inputs at mixdown, 100 mm console grade faders, classic SSL channel dynamics processing, essential version of G-Comp Bus Compressor with 'Auto' release, rack mountable, USB class compliant

For those of you familiar with SSL's SiX, you'd be forgiven for thinking this is just a larger version of that device, and to an extent there is some truth in that. It clearly follows the same design language and I'm sure many of the components are the same and, well, the name suggests as much. It is the SiX but BiGgEr. However that isn't the full story. This isn't just an expanded SiX with more channels. The BiG SiX is far more than that.

Although the physical similarities are obvious, there are a few differences. The biggest is the size, which is slightly larger than a 19" rack but the end-cheeks are removable, ready for the fitting of rack ears, allowing for mounting in any standard rack. The main fascia has a handful of IO for quick access, including four XLRs for the first four channels, plus things like headphone outs. The rest of the IO is on the back panel, which is heavily recessed, a good move for those mounting this in a rack, and handy for those keeping it on a desk too.

## Numbers game

The next big change – and the one that really makes the BiG SiX stand apart from its smaller sibling – is the smattering of buttons with 'USB' in the label, along with the USB port on the rear. Because, yes, the BiG SiX is also a class-compliant USB audio interface. The SiX, that I've been using since its release, is a fantastic bit of kit but I've always felt that it's a shame I have to run audio into another device when working in my DAW. The BiG SiX fixes that, and some, in this regard. Class compliance negates the need for any drivers to keep updated which can be a real headache. It also makes it a much simpler task for not just managing a room but for recording and mixing two ways. It's a real joy to work with multiple synths (which I do a lot) and being able to mix stems, as well as record via the usual inputs, is a big advantage and takes just a simple click of a button to choose the USB behaviour of the BiG SiX.

As mentioned, there are four XLR inputs on the top panel, feeding the first four channels, all mono, with EQ, single-knob compressor and a fader with LED ladders for level. The controls all provide a good level of resistance and are colour coded. The interface is intuitive to navigate, with everything falling to hand.

## BiG buCKs well spent?

There's an awful lot of functionality at hand with the BiG Six. So much so that I won't go into it here. That's what the manual is for after all. However, I will say that everything is rock solid, as you would expect from SSL. There are many options for signal flow and, of course, there is the legendary SSL compressor quality on board too. The preamps sound fantastic and the device runs at up to 96kHz.

The SSL BiG SiX isn't the cheapest mixer out there but you get a heap of quality and functionality for your investment, along with some solid industrial design. I would highly recommend it to anybody looking for the combo, and even for those only looking for a mixer and for whom the interface might never be used. FM

## FM VERDICT

# 9.0

**Full of functionality and quality. Big SiX marries two key devices in a way that makes it hard to justify keeping them separate ever again. Worth the money**

### THE PROS & CONS

**+**

Excellent build

**Easy integration with your DAW**

The bus compressor is brilliant

**–**

**Not cheap**

# PreSonus AudioBox GO $80

**Simon Fellows** falls for this tiny, entry-level, go-anywhere interface. It's a bit of a goer...

**CONTACT** **WHO:** PreSonus **WEB:** presonus.com **KEY FEATURES** 2-in/2-out USB 2.0 portable audio interface with USB-C connector. 24-bit/96kHz audio conversion, direct monitoring, 50dB variable gain **WEIGHT:** 0.24 kg

Sometimes we forget to appreciate the small, simple things, which is why I find I have a lot of time for PreSonus' new wedge-shaped AudioBox GO interface.

It's tiny, about the size of a chunky slice of tasty cheese laid on its side. Weighing next to nothing, it's also about as complex to use as a corkscrew. What's more, to continue the food and drink analogies, it's as cheap as chips.

The diminutive twin-channel AudioBox GO is now PreSonus' entry-level audio interface, short on features and low in price but still remarkably capable.

PreSonus is positioning it as your first interface. One that'll easily fit in the smallest, most cluttered student bedroom, and one that'll comfortably travel with you when you're out recording with your mates.

A complete recording solution for novices, it's bundled with Studio One Prime, PreSonus' excellent DAW, plus StudioMagic, a collection of samples, software instruments and utilities. Of course, it'll also work with GarageBand or any DAW of your choosing, and it's capable of recording at 24-bit/96kHz.

Controls and I/O are spartan. At the front are rotary knobs for gain, main out volume, headphone volume, mix, a phantom power button and a 1/4" TRS headphone socket. Round the back there are two 1/4" outs, a USB-C socket, a Hi-Z 1/4" TRS input and a mic/line XLR combi socket.

Externally at least, build quality is best summed up as sufficient. The AudioBox GO is little more than a tiny plastic box with five matching plastic knobs and a few basic, through-hole red LEDs. So what? It would be unreasonable to expect more at this price point; we're more interested in how it performs.

Plug it in – the AudioBox GO is USB bus-powered – and the power LED lights up like a red-eyed Cyclops caught in bright headlights on a dark night. It's dazzlingly strong, but at least you'll know when the unit is on.

Hooking up instruments, a guitar and a mic in our case, is as easy as, well, plugging them in, but it's a slight faff reaching around the back of the box to do so. Similarly, the AudioBox GO is so light that just a slight tug on either cable sees it hopping across the desk. Neither complaint is a biggie, these are just small, necessary compromises when playing with something so portable.

Little more than a tiny plastic box with five matching plastic knobs

Operation couldn't be much more straightforward, or more manual either. Each channel has a gain knob that provides 50 dB of variable gain (0 to +50 dB for mics, and -15 to +35 dB for line/instrument) and bright red LED that illuminates if your signal starts clipping. Phantom power can be supplied to the XLR out via a small textured button that illuminates a soft cobalt blue when turned on. Quite a contrast to those angry-looking red LEDs.

A big knob, labelled "Main", controls output level to your speakers, and there's a smaller headphone level knob too. Finally, a mix knob enables direct latency-free monitoring.

Essentially, you just plug in, set your levels and, well, go. It's that easy. Perfect, for spontaneous, off-the-cuff recordings when the last things you want to worry about are complex routings, compression settings, headphone mixes and so on.

PreSonus hasn't published an EIN figure for the AudioBox GO's preamp, but we found it suitably quiet. Pristine? Well, it won't get the teams at Neve or Universal Audio a-fluster, but it's more than up to the job.

The only caveat is that 50dB of gain is not really enough to cope with gain-hungry dynamic mics, such as Shure's SM7B, a podcasters' favourite. So, if you're using a mic like this, be aware that your recordings could become noisy. FM

## FM VERDICT

# 8.0

**The AudioBox GO is a sterling little basic interface that can hitch a ride with you whenever and wherever your music takes you**

## THE PROS & CONS

**+**

Tiny and lightweight

**Simple, plug-and-play operation. Solid bundle of software**

Very affordable

**–**

**Plasticky**

Too basic for appreciation by power users

**Minimal gain**

# Tascam Mixcast 4

## £579

If you make podcasts and want to streamline the process, **Jon Musgrave** could have just the device you need

**CONTACT** **WEB:** tascam.eu **KEY FEATURES** **MIC INPUT:** XLR/TRS combo sockets **MIC GAIN:** 66.5dB **LINE INPUTS:** pair 1/4" TRS jacks, 1/8" stereo minijack **HEADPHONES:** 1/4" stereo jacks, 1/8" TRRS front panel **LINE OUTPUTS:** 1/4" TRS jack, 1/8" stereo minijack **USB:** Type-C connector, USB 2.0 **SD:** SD, SDHC, SDXC Recording: WAV at 24-bit, 48kHz **SIZE:** 375 x 267 x 71mm **WEIGHT:** 2.55kg

Podcasting clearly creates its own demands and a dedicated device certainly makes sense. With Røde's Rodecaster and Zoom's PodTrak already making waves, portastudio kings Tascam have now entered the fray. Mixcast 4 is an SD-based multiple input, multiple output multitrack recorder with USB interfacing. It lets you balance and record the audio of your podcast as either a stereo mix or in multitrack format. This can then be transferred via USB to various devices (Mac, PC and iOS with Android to be added soon) and Tascam's Podcast Editor software used to edit and export your final show (WAV, MP3, MP4).

Mixcast 4 has plenty of physical controls and faders, a menu-driven touchscreen, and eight trigger pads for firing audio and effects. It works as a standalone device, and although quite heavy, it's compact enough to stick in a backpack. That said, some aspects, like importing sound files to pads, do require the software editor.

Connectivity is definitely one of Mixcast 4's strong points. There are four phantom-powered mic inputs (the first four faders), and one stereo line input on either ¼" TRS jacks or minijack. Meanwhile, the outputs include four headphones (headphone 1 is paralleled to a front mounted minijack), and the main stereo output. USB interfacing provides 14-out/2-in communication, with the faders routed to individual USB streams. The final three stereo faders carry a Bluetooth input, USB input from the connected USB device and audio from the trigger pads.

Each channel has Mute and non-destructive Solo, with fader 1 also including Talkback. This routes to headphones 2-4 and works even with channel 1 muted. Channel-specific processing is accessed via touchscreen. You'll find de-essing and noise suppression on all channels, with 2-band EQ, exciter and compressor on the mic channels. Mic channels also have an assignable effect – reverb or voice pitch changer. Finally, Mic 1 has a dedicated ducking processor. There's also a global Auto Mixer setting, which helps manage levels across all four mics.

Mixcast 4 is clearly packed with features, but still I found both the hardware and Podcast Editor software intuitive. For example, you can use the front-mounted TRRS headphone as a mic source by assigning it to mic input 1. So, your mic-equipped headphones can also provide a talkback mic. Brilliant. Also, each trigger pad has six selectable playback modes (one shot, latching and so on), so you can tailor how they behave. This is vital for making the most of the trigger pad concept.

There are limitations. Mixcast 4 only operates at 24-bit / 48kHz, although you can export in 16-bit and at 44.1kHz. Also, editing parameters via touchscreen isn't very immediate, particularly if you've got a bunch of gate thresholds to set up. Finally, although the mic inputs sound fine, they're not designed to compete with a dedicated audiophile interface.

Overall Mixcast 4 is a very accomplished device, which will let you spend more time on the content of your podcast rather than fretting over the technical aspects. FM

## Packed with features but still intuitive

## FM VERDICT

# 9.0

**Tascam's portable recording knowhow captured in a podcast-specific device. If you're in that game, it's definitely worth a look**

### THE PROS & CONS

**+**

Compact and robust

**Plenty of connectivity**

Multitrack and stereo operation modes

**Well equipped Podcast Editor software available**

Well integrated talkback mic

**–**

**Certain features only accessible via Podcast Editor**

# JZ Microphones Vintage V12 €1299

**Jon Musgrave** hooks up the latest vintage reissue from Latvia's premium mic-maker

**CONTACT** **WHO:** JZ Microphones **WEB:** jzmic.com **KEY FEATURES** **CAPSULE:** 25mm diaphragm with JZ's golden drop technology **PICKUP:** Cardioid **FREQ RESPONSE:** 20Hz-20kHz **SELF-NOISE:** 6 dB (A) **S/N RATIO:** 87 dB-A **SENSITIVITY:** 22mV/Pa at 1kHz **MAX SPL:** 134 dB (2.5kOhm, 0.5% THD) **OUTPUT IMPEDANCE:** 50 Ohm **LOAD IMPEDANCE:** 1000 Ohm **POWER:** +48V DC phantom

The Vintage V12 is the latest reissue from JZ. Originally released a decade ago, this large-capsule, phantom-powered cardioid condenser has had a visual refresh. With its flattened elliptic cylinder shape and huge headstock, the design manages to look both retro and modern at once. As I've come to expect from JZ, it's also beautifully finished.

JZ are no strangers to revisiting the sound and response of classic capsule designs. Indeed a couple of years ago I tested their excellent Vintage V67 mic. Much like that mic, the Vintage V12 takes its inspiration from a classic mic, and this time it's AKG's C12. Even so, it's important to emphasise that although the capsule may be designed with that intention, the Vintage V12 is by no means a slavish reproduction of AKG's classic. First up, it's not a multipattern valve mic and, in fact, uses JZ's low noise (6dB-A) discrete Class A output stage. Secondly, as mentioned above, it has its own quite distinctive physical shape.

Sticking with the design aspects, the mic is mounted via a ball joint stand mount. I love how discreet this is, but much like I found with the V67, it's not all that flexible in terms of the angles you can achieve. I would probably be inclined to grab a more flexible universal elbow to use in conjunction with it. With no cradle option and no low-cut filter, it's also good to know the V12 capsule has some internal isolation.

So, how does it sound? First up, the mic is crisp and clear and is certainly reminiscent of the famous AKG sound. Studying the charts, the Vintage V12 has a couple of dB dip around 2kHz and three dB bell-shaped boost in the high frequencies, peaking at around 8kHz. This is similar to a C12 but I would say on paper at least the AKG is brighter.

Either way, comparisons aside, in its own right the V12 sounds wonderfully alive. There's not a large amount of proximity up close, and it handles vocal plosives really well. On voice, I found a pop shield was only really necessary from about 20cm and closer. With the controlled proximity, using the mic a few centimetres away with a pop shield sounds absolutely amazing and wonderfully intimate. On sources such as acoustic guitar and percussion there's plenty of presence but the overall top end doesn't sound excessively hyped. On quieter sources, the low self noise is very welcome.

The polar pattern seems reasonably broad and as you'd expect, the fully off-axis response is a bit of a mixed bag. However, much like with the V67, the top of the headstock has a reasonably smooth off-axis response. This is certainly good news if you have to position the mic on its side. Luckily, I was also able to A/B the V12 with my V67 tests, and although there were some similarities (proximity for example), the frequency responses are clearly different, with the V12 noticeably brighter.

Overall I really like this mic. If you're after a high quality large capsule condenser with some C12 flavour but at a fraction of the usual cost, the Vintage V12 has got to be on your list. FM

> With a pop shield, it sounds absolutely amazing and wonderfully intimate

## FM VERDICT

# 9.2

**Inspired by a classic but with a signature all of its own. Ideal for vocals but delivers a beautiful sheen to all manner of sources**

### THE PROS & CONS

**+**

Great sounding mid- and high-frequency response

**Very low self noise**

Stylish design with large open headstock

**Discreet integrated clip design**

**–**

Quite expensive

**Integrated ball and socket clip are not very flexible**

# Positive Grid Riff

## £133

Positive Grid bring recording to the guitar masses with this affordable interface. **Daryl Robertson** puts it to the test

**CONTACT** **WHO:** Positive Grid **WEB:** positivegrid.com **KEY FEATURES** 1-in, 2-out audio interface compatible with MAC/PC and iOS. 24bit / 96kHz high-resolution audio with 113dB dynamic range and 20-20k frequency response. **WEIGHT:** 156g **DIMENSIONS:** 21.6 x 54.9 x 88.1mm

It wouldn't be totally wrong to call Positive Grid trailblazers, especially after they turned the practice amp market on its head in 2019 with the wildly popular Spark. They've now turned their sights to the crowded world of budget audio interfaces, with the goal of making them more guitarist friendly.

The Positive Grid Riff is a slimline USB audio interface developed with electric guitar or bass players in mind and can be fully integrated with their award-winning amp and effects software, Bias FX 2. Now, guitar-focused interfaces aren't anything new – with the likes of the IK Multimedia Axe I/O Solo and iRig HD 2 being very popular options – but the Riff does seem to pack a whole lot into its miniature case.

The rugged metal enclosure houses a single 1/4" instrument input as well as a single 1/4" line-level output and 1/8" headphone output.

The oversized control knob located on top of the interface allows you to adjust various parameters of the Riff, from the input and output levels, direct monitoring level – for zero-latency tracking – and even switch between three preamp emulations. This knob is also fully customisable and can be assigned to perform tasks such as changing amp models within Bias FX 2.

The Riff boasts an impressive 24-bit/96kHz resolution and 113dB dynamic range and even comes with a copy of Bias FX 2 LE and PreSonus Studio One Prime recording software.

It comes with two USB cables, a micro USB to USB-A, used for plugging the Riff into your computer and a micro-USB-to-Lightning cable, to plug the interface directly into an iOS device. You also get a free copy of BIAS FX 2 LE software.

As mentioned, the Riff has a designated headphone out and a single 1/4-inch output on the back. We can't help but long for two 1/4-inch outputs to be included. Of course, real estate on this minuscule interface is limited, but still, dual outputs would have made this a more usable interface for mixing outside of headphone land.

As you'd expect, Riff works well as a stand-alone device with Bias FX 2, but how does it hold up as a recording interface? Well, in short – pretty great. For the purposes of this review, we used the Riff in conjunction with Pro Tools, and the results were fantastic.

The sound was clean, clear and totally devoid of any pops or clicks – what more do you need? In addition, the Tone mode built into the Riff really comes into its own while recording, as you can switch between three different preamp modes – mild compression, full range and mid boost. Very convenient when switching between guitar styles.

If Positive Grid wanted to create the ultimate audio interface for guitar players, they most definitely have succeeded. While this sleek, no-nonsense interface won't get the hearts of recording fanatics racing, it certainly will excite guitarists or bassists. Its uncomplicated layout means that players with zero recording experience can set it up in minutes – couple that with the Bias software compatibility, and you have a tool that will revolutionise how many players practise and record. FM

## THE PROS & CONS

**+**

Simple layout

**Solid enclosure**

Fully integrated with Bias FX2

**–**

**Lacking I/O for anything other than guitar, bass or mono synth options**

## FM VERDICT

# 8.0

**A powerful – and competitively priced – audio interface designed to make the world of recording accessible to every guitarist**

# ALM Busy Circuits Beast's Chalkboard £104

**Rob Redman** explains how this two-channel octave controller emits much sweeter results than its name suggests

**CONTACT** **WHO:** ALM Busy Circuits **WEB:** busycircuits.com **KEY FEATURES** **I/O:** Two channels of control, Dual output and thru per channel, -2 to +2 octave range

ALM Busy Circuits' Beast's Chalkboard is a two-channel octave controller for Eurorack systems. It follows the same design philosophy as other modules in their range, which is clean and clear, with great eligibility of labelling and satisfying knobs. The build quality is typical ALM and I have no doubts it will handle life in the studio or on the road. It's a small module at just 6hp and is a skiff-friendly 22mm deep including the header.

So what is it? Well, it's essentially a module that allows you to input a volts-per-octave feed into the 'in' port, then use the rotary control to adjust that in steps of -2 octaves to +2 octaves. This isn't a variable control, so dialling in your preferred volts per octave output is a cinch. A nice feature here is that you get two outputs per channel. While they retain the same octave out, it's nice to see and could save the need for a mult somewhere else.

Better still is the use of space, which gives all this functionality twice over. What's interesting here is that this effectively extends the range of the module, as you could output a signal two octaves below your source, patch that into the second channel and output that at a further two octaves lower, making for a module that offers a -4 to +4 range. This might be something that isn't needed but is worth considering for a rig.

This duality of output and overall channels makes this a pretty handy tool for keeping multiple volts per octave sound sources in tune but with some latitude in octave range. Not all sound sources are made equal, with some variation in range for pitch. The Beast's Chalkboard adds to this range and is useful for this scenario.

While use as an octave switcher is the obvious intention here, it's worth remembering that octave ranges are simply voltages and in Eurorack, most of the time, modules that can affect voltages for pitch can be applied for other uses. If this is kept in mind, it's easy to see how this module could find its way into use for other purposes, from a kind of quantised CV control, albeit with the limitations of the voltages being preset for pitch.

It'd be nice to have some CV control over the switching of octaves here, for a little extra versatility but in reality it works just fine. There's room to experiment for the musician who enjoys that, but for its intended purpose, the Beast's Chalkboard does exactly as you'd expect and does so in a neat little package. **FM**

## THE PROS & CONS

**+**

Excellent build quality

**Intuitive module**

Two channels

**–**

**No CV control**

## FM VERDICT

# 8.0

**If you need extended range for modules with limited range, or a quick way of setting an octave, this is the best tool for the job**

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# Beyerdynamic DT 900 Pro X £219

**Dave Clews** weighs up whether this newest range from the headphone titans merits the upsell

**CONTACT** **WHO:** Beyerdynamic **WEB:** europe.beyerdynamic.com **KEY FEATURES** Wired open back Circumaural headphones, **FREQUENCY RESPONSE:** 5 - 40,000 Hz **NOMINAL SOUND PRESSURE LEVEL:** 100 dB **NOMINAL IMPEDANCE:** 48 ohms **WEIGHT:** 345g **ACCESSORIES:** 3m or 1.8m straight cable, detachable, with 3-pin mini XLR and stereo jack and drawstring bag

Having enjoyed great success with their existing Pro line, Beyer launched their new Pro X headphone range late in 2021 with two new models – the closed-back Beyerdynamic 700 Pro X and the open-back 900 Pro X, the subject of this review.

The new Pro X models are not intended to be replacements for the existing Pro series, but instead sit alongside them as more upmarket, advanced models. To that end, they feature an updated driver design, detachable cables, a sleeker, more modern look and one fixed impedance rating, making them suitable for a more diverse range of applications. These upgrades are reflected in the higher price point, at roughly $100 more than the Pros.

As the open-back member of the squad, the DT 900 Pro X is Beyer's suggested weapon of choice for critical listening, mixing and mastering, intended as a step-up from the formidable DT 990 Pro in that regard.

Closed-back designs are more suited for tracking with mics due to the reduced risk of headphone spill and tend to have a more pronounced bass response due to the fully-enclosed drivers, making them popular for general music listening. Open-back designs meanwhile tend to be preferred for programming and mixing tasks due to their propensity for a more open sound and generally better stereo soundstage.

Physically, the only difference between the 900 Pro X and the 700 Prp X is the vented outer casing of the 900's earcups. The build quality is otherwise identical, but the 900 bears the telltale array of narrow slots that distinguish it as an open-back design. There's the same extremely luxurious velour padding, however, due to that vented casing, there's not the same feeling of your ears being totally engulfed when you put the 900s on. In contrast to the 990 Pro's large number of vents, the 900 Pro X's vent slots are fewer and further between, and the Pro X ships with straight cables rather than the coiled type on the 990 Pro.

Isolation from external noise is not the greatest, as you'd expect from open-backs. If you're after something to listen to music on while out and about, the closed-back 700 Pro X model performs much better at keeping out background chatter.

Both the 700 and the 900 Pro X have the exact same spec for transducer design. Beyer's new STELLAR.45 transducer design delivers a vibrant sound without being over-pronounced at either end. The 48-ohm impedance lends the versatility required to be loud enough when plugged into mobile devices as well as audio interfaces and studio headphone amps, so the 900 Pro X is notably louder than the 990 Pro.

Sound-wise, the 900 Pro X shares the same flattish profile as the 700, delivering each frequency range without bias or favour. There's no flattering bass boost or overly sizzling highs, but instead you get an accurate portrayal of what's actually there. This is, of course, exactly what you want from something marketed as a studio reference monitor headphone, and the 900s tick all the boxes.

Listening to pre-recorded material on these – at least in a relatively quiet environment – can be a joy, as previously unheard details leap to the fore, waving for your attention.

Overall, the upfront, detailed yet unflattering character of their sound is similar to the 700's, which is no real surprise since they share the same STELLAR.45 driver tech and internal specifications, the only real difference being the enclosure design type itself. When driven by the headphone jack of our MacBook Pro, those new transducers, with their three-layer speaker diaphragm and integrated damping layer definitely deliver a punchier sound than the older 990 Pro, although the stark difference in volume level may well be more down to the 900 Pro X's lower impedance of 48 , compared to the 250  rating of the 990 Pros we compared them against. FM

## FM VERDICT

# 9.0

**Whether recording on the 700s and mixing or listening on the 900s, the Beyerdynamic pedigree ensures you won't go wrong**

## THE PROS & CONS

**+**

Bulletproof build quality

**Extremely comfortable**

Nice and neutral, natural sound

**Brilliant for mixing**

**–**

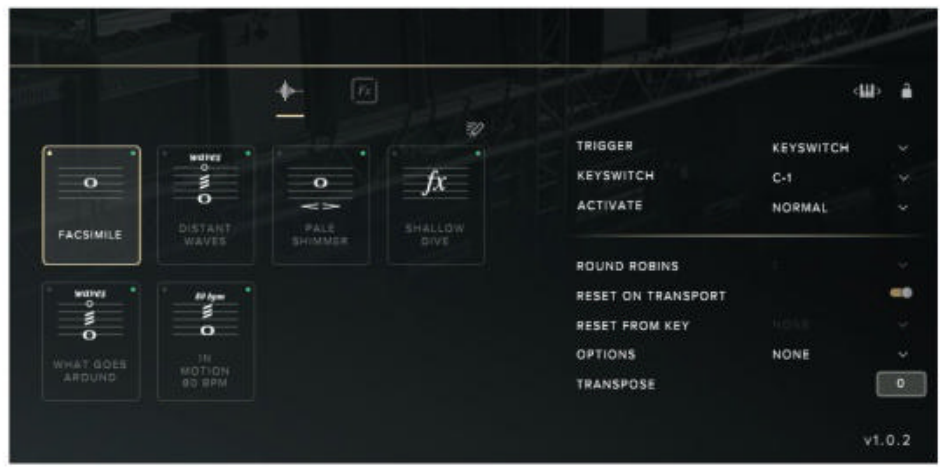
**Not the best choice for tracking**

Not very portable

# Spitfire Audio – Aperture The Stack

## £199

Spitfire Audio are well known for using some very famous spaces for recording their sound libraries, and given their product schedule over the last few years they must be almost permanently camped out at both AIR Lyndhurst and Abbey Road studios. They're also known for sometimes upping the ante when it comes to recording large numbers of musicians, with the 344 musicians and 26 mic positions on Hans Zimmer Strings being the perfect example. It therefore came as no surprise to discover that they had decided to apply this approach to electronic sources, and with 'Aperture: The Stack' they've delivered what appears (on paper at least) to be the self-indulgent fantasy of a synth-owning lunatic with very deep pockets. The Stack makes use of Lyndhurst Hall in a rather unconventional way by kitting it out with four levels of rigging and filling this with 56 guitar amps. These are bolstered by four subs to fill out the low end. This setup then captured various instrument and percussion sources, taking in synths, drum machines and modular gear, as well as electric guitar and bass. The sampled audio has then been mapped and categorised for access with Spitfire's dedicated plugin.




Presets are in effect banks of different sounds (patches) – here labelled as 'techniques' in a manner akin to the various playing styles one might ordinarily associate with 'real' instruments. There are great sounds here, with all but the drum-based sounds geared more overtly to film and game music than the wider range of genres often associated with many other sample-based synth libraries. This isn't a bad thing, as The Stack is a great way of adding extra bits of texture to the more orchestra-based products that Spitfire do so well. It's perhaps brought even more into focus due to the size of Lyndhurst Hall and its resulting ambience that's so associated with large ensemble work.

That said, for those with down-beat or more gothic musical tendencies, there will be plenty here to keep you interested, and the percussing elements might find use across the spectrum.

It should also be noted that, as the amps are driven harder, and more come into play, a definite fuzzy sonic signature is applied to all sound sources. This is to be expected and can help gel multiple sounds together, but it may not be to everyone's liking. For those interested in taking this instrument library for a spin there is a demo version available to download, which includes a playable example patch.

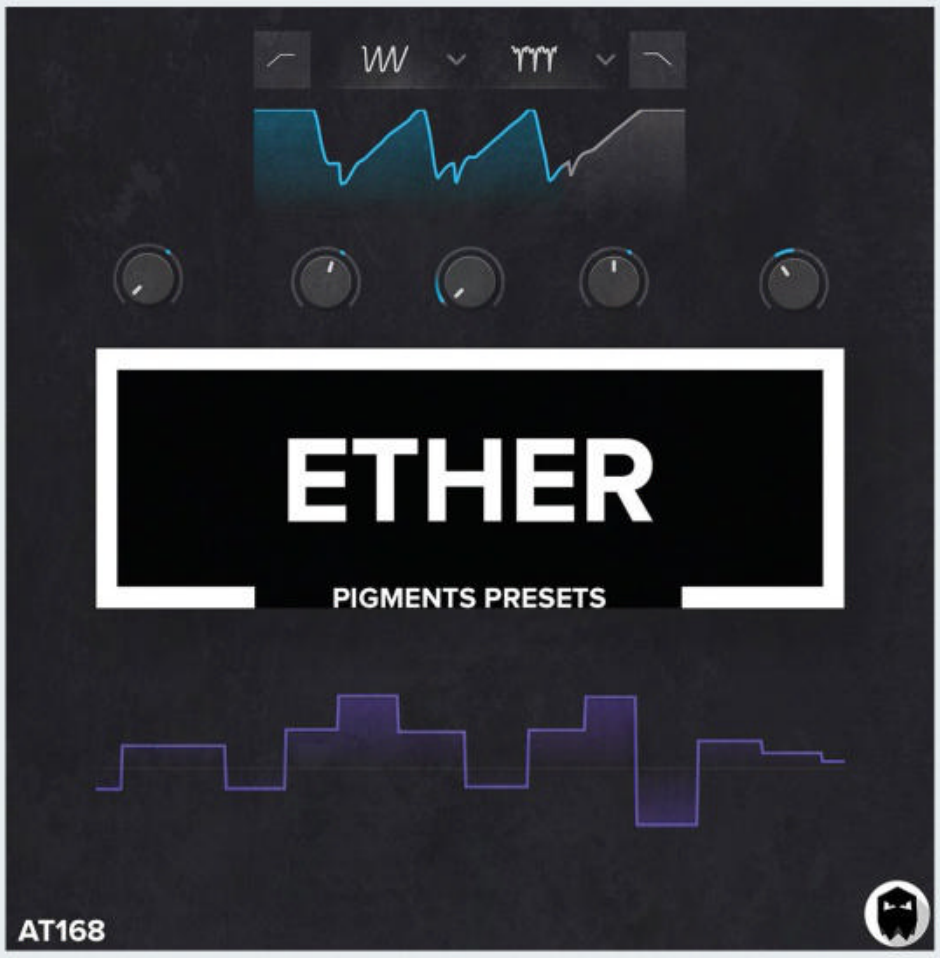
Although easy to initially perceive as a gimmick, The Stack is in fact an interesting take on making electronic sources available in a sample-based format, beyond the standard approach of capturing dry samples and running them through internal effects. Of course, extra on-board processing is included here – though one could quibble about the limited sound editing options – but ultimately this is a worthy addition to the Spitfire stable.

*Bruce Aisher*

**spitfireaudio.com**

## VERDICT 8.2

# Audiotent – Ether: Pigments Presets from £37




The gifted guys and gals in the lab coats at Audiotent HQ have clearly had a hoot twisting and turning the knobs on Arturia's Pigments synth. Clearly enamoured with its sample and harmonic engines, they've lovingly crafted an exquisite set of presets for you all to swoon over.

They've broadened its already expansive range, and somehow managed to find new and exciting sounds to take your music to the next dimension.

All 107 presets come with mod wheel assignments, and four smartly mapped macros, which delight with each tinker and turn.

Ether also comes in three editions – ranging from the Standard for producers who just want the presets, to the Ultimate set, loaded with MIDI files, all the WAVs, and some intriguing project files. ***Roy Spencer***

audiotent.com

**VERDICT 9.0**

## Loopmasters – Hard Trance Europe £29.95

Banging beats and blistering bass, courtesy of the darkest dancefloors from Berlin to Budapest. This collection comes from the record label of the same name, famed for tearing up the digital charts this side of the globe, with its super tough take on the modern high-BPM sound. This, their debut pack, was put together by label heavyweights Lab4 and Nick The Kid, and is packed with that hard trance feeling. The production is punchy, and loops and hits take in everything from synth sounds to real devastating low end. You also get soft sampler patches for Kontakt and the like, and MIDI files. *Roy Spencer*

loopmasters.com

**VERDICT 7.0**

## Mask Movement Samples – Tarantino Guitars £46.95

Beautiful guitar playing, inspired by the classic soundtracks of Spaghetti Western movies, and the films that followed in their cowboy-booted footsteps. Made up of 37 mini pieces of music in construction kit form, the samples in this collection cover country, rock, and blues. The electric and acoustic picking and plucking is faultless, and comes packaged alongside live instruments for you to pair them with. The plaintive trumpets are fit for sounding a duel and the sharp strings sounds have all the drive and energy of a horseback chase through the sun-baked desert. It's more good, than bad and ugly. *Roy Spencer*

loopmasters.com

**VERDICT 8.0**

## Sample Magic – Flipped Funk From $7.99/month

We want the funk! And if you do too, baby bubba, then you need access to this out-of-sight galaxy of tight horn playing, slick guitar licks, and plenty of slapping bass riffs – all on the one, and tons of fun. Everything bumps and bounces in the right places, and the recordings are crisp and clear, with body and warmth. And don't worry about who's behind the sticks, either: this funky drummer gets to showcase their in-the-pocket playing, throughout. If you're after reworked '60s/'70s funk for your big beats and dancefloor tracks, then there's a flip for you in this sensational sample set. *Roy Spencer*

splice.com

**VERDICT 8.0**

## Sunday Supply – Elevator Music From $7.99/month

Originally a term that you'd throw at tunes that were bland AF, here, it's a badge of honour. This type of easy listening is actually packed full of serene sonics for making textbook tranquil tracks. Taking cues from the psych and science to help create the perfect score for soothing jangling nerves, sound designer Benjamin Balcom dug into the history of muzak and borrowed liberally from the world of classical jazz, bossa, ambient electronica, and modern lo-fi aesthetics. Just one effortless trawl though, and your blood pressure will drop to its lowest in years. Ping! This floor, please. *Roy Spencer*

splice.com

**VERDICT 9.0**

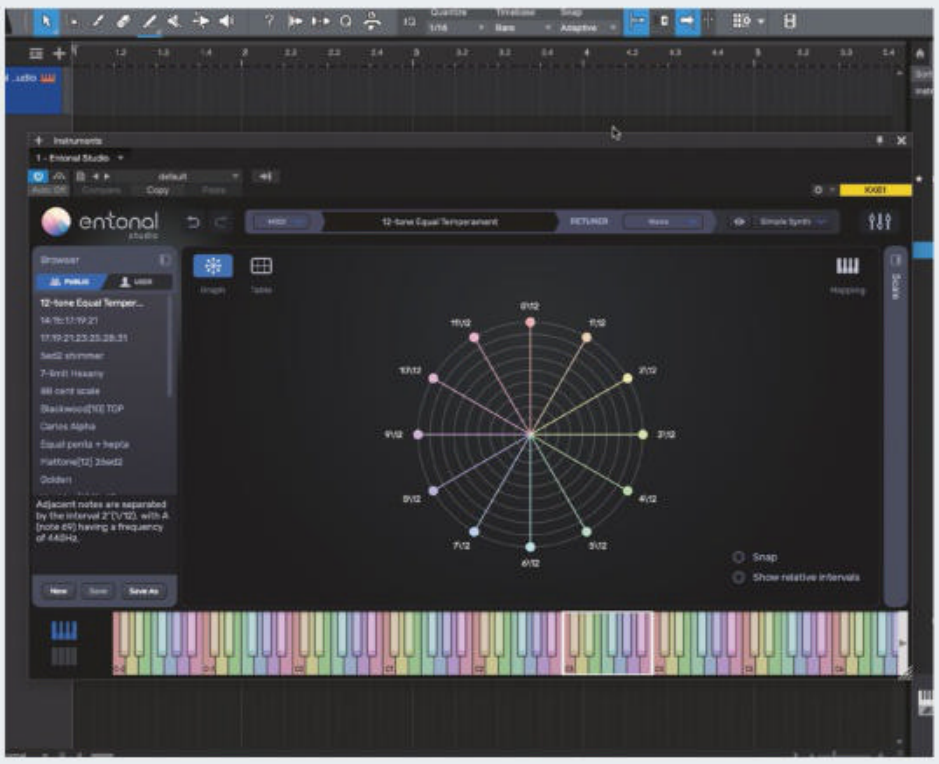
# Entonal Studio

The world of alternative tuning systems is one many fear to tread. Venture away from 12-tone equal temperament, though, and you find whole communities of microtonal musicians using an array of new tunings.

Plugin synths sometimes help with the ability to load Scala files, and some DAWs have custom tuning systems, but Entonal Studio aims to provide a bridge for any synth to play microtonal tunings. Entonal Studio is currently in Early Access at reasonable pricing, and it's this early version that we're exploring here. One purchase nets you plugin and standalone versions of this easy-to-use software, and it can act as a plugin host too, making microtonal tunings easier for everyone!

## Tuning up >

Entonal Studio's plugin version works as an instrument in your DAW, taking in your MIDI signal and outputting a new one to another MIDI instrument. The radial graph represents the tones it will output, and the angles of these 12 sticks can be changed to make notes sharper or flatter. In this diagram, it's outputting 12-tone equal temperament, meaning it's not changing our input signal at all before output. Each coloured spike is related to the corresponding coloured keyboard notes below. It comes with a simple synth to help hear the current scale. But…

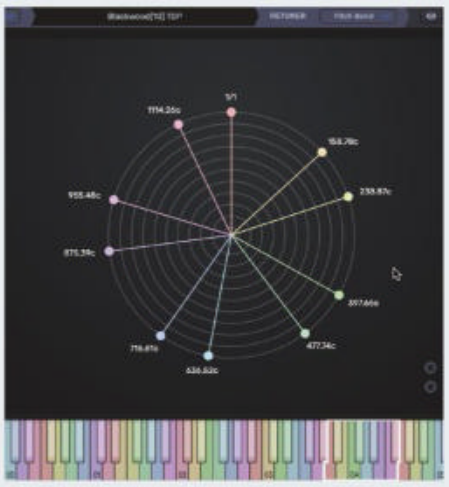



## Hosting plugins >

Far from just a separate go-between plugin, Entonal Studio can host plugins itself too. Here's FM8 in its own floating window. With Entonal, a plugin doesn't need to load Scala files or have its own special system to work in new tunings; you can freely swap out the synths and their patches without having to work out a new tuning system. Retuning can be done using pitchbend messages or MTS-ESP. You can specify whether Entonal should output MIDI or MPE, too.

## Selecting quick tunings >

Now for the actual frequency action! On the left in the browser, we can select a few interesting tunings to put Entonal – and therefore FM8 – into. At this current phase of the beta version, selection is limited, but Entonal plans to download and upload presets from the internet, as well as having a number of curated, popular and interesting tunings. Here's a tuning that uses 10 notes, repeated across the keyboard and denoted by colour.

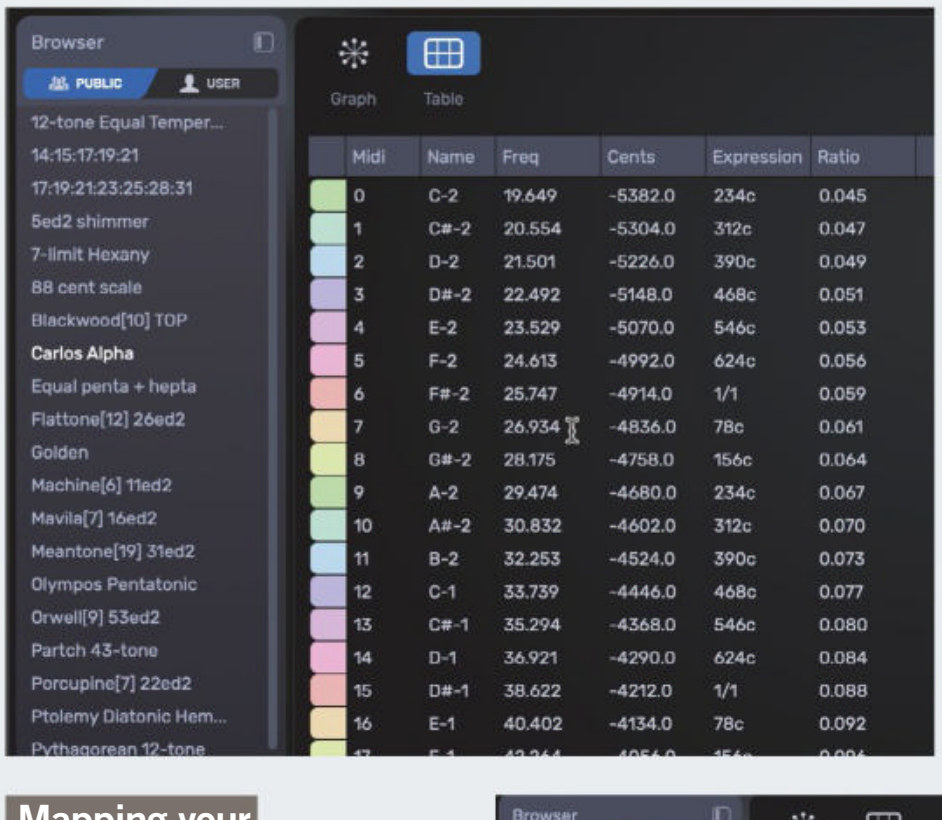


## < Swapping synths

Here's Xfer Serum playing Wendy Carlos' Alpha scale, "9 divisions of 3/2", as the plugin tells us. The number of notes in the radial graph is pared down to 9, and the spikes are positioned quite equally. This scale is derived by taking nine steps of 3/2 – in other words, taking the root frequency, multiplying by 1.5 to establish the next note, and this is repeated. If a note's frequency crosses the root's octave, it's divided by two to fit within the scale once again.

## BEYOND 12 NOTES

**Our regular system divides the octave into 12 equal notes, but what else is out there? Systems driven by ratios, such as Just Intonation, aim at perfectly concordant harmonies between notes, with relationships like 3:2 (fifth), 5:4 (major third) and 9:8 (semitone) providing perfect frequency relationships with the root note. There are systems driven by equal temperament of more notes, such as 19-note equal temperament and 53-note equal temperament which, believe it or not, sound pretty reasonable. Then there are experimentations that go even further afield, using a combination of methods. All this experimentation is a big deal among tuning enthusiasts, who have produced a huge number of unique, weird and wonderful systems to make completely new music.**

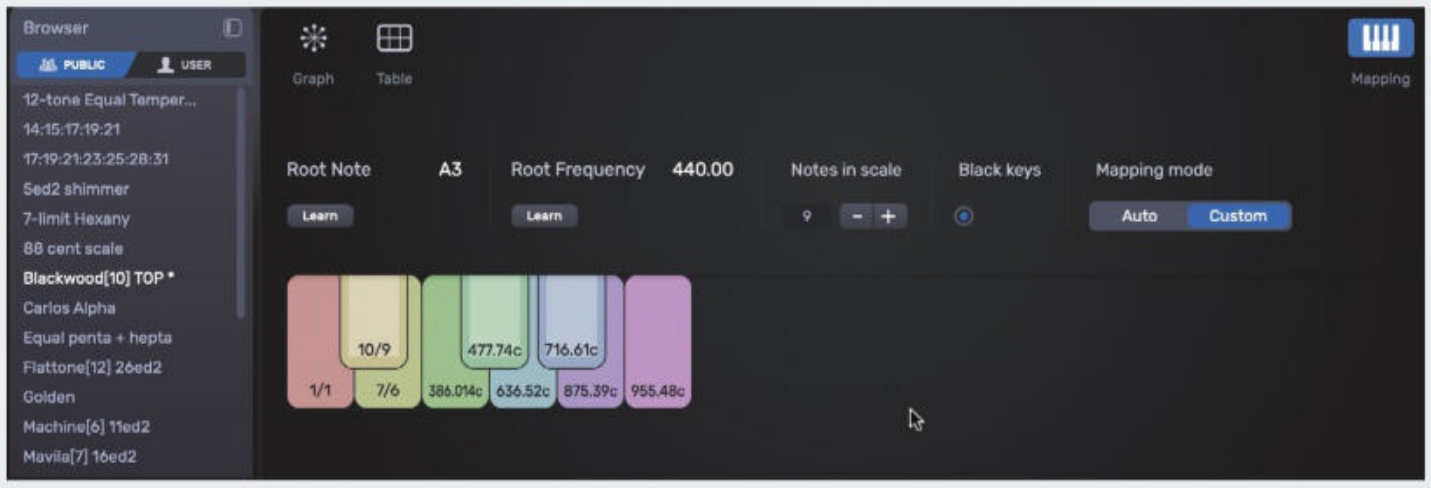



## < Editing note definitions

Let's go in a little deeper on note editing. By simply dragging a stick around the circle, we can increase and decrease its pitch at a higher resolution than cents. By activating snap, the angles snap to recognisable, rational fractions, as seen in just intonation and other tuning systems. All the while, our synth complies with these unusual tunings. In the table editor, you get to see the exact information about every single note in your scale, whatever the octave. This can be great for determining frequency, ratio and cents, for if you want to compare your scale to others.

## Mapping your keyboard >

**In Mapping mode, we can get a little deeper with how our real-world keyboard represents the out-of-this-world tuning systems Entonal Studio is translating for us. We can select how many keyboard notes there are and if black notes are counted; we can tweak the Root Frequency and Root Note, and our system will change with it. Helpfully, the coloured keys at the bottom of the plugin update to our tuning, as does the radial graph.**



## < Early access

Using the Scale tab on the right of the interface, you can directly input note definitions in any way you choose. By selecting a note and inputting a ratio, a cents value (followed by 'c'), or a decimal, you can add new notes or tune existing ones, and your scale will re-order automatically if necessary. Entonal Studio is still in development, and new features are making their way to the surface regularly, but the early access period makes the software available to buy and keep for when it hits version 1! FM

# Behringer Model D

## £249

**Leo Maymind** asks how the synth that started Behringer's remake conquest has held up

**CONTACT** **WHO:** Behringer **WEB:** behringer.com **KEY FEATURES** Analogue synth with triple VCO design **DIMENSIONS:** 90 x 374 x 136 mm **WEIGHT:** 1.7 kg

It's hard to find a synth design more iconic than that of Bob Moog's Minimoog Model D, a three-oscillator instrument that can be heard on decades of recordings across many genres. Its fluid ladder filter and array of oscillator waveforms made it the go-to sound design machine in its time, so when Behringer announced it was making its own version of the Model D, albeit in tabletop form with a few tweaks, you could say that more than a few heads turned. When the price was announced at a mere $299, jaws dropped.

### Model synth-izen?

So just how similar is Behringer's new Model D to its Moog forefather? Well, just taking a look at the front panel tells you most of the story. Three oscillators, each with a choice of five waveforms, feed into a mixer, which then goes into a 24dB ladder filter that can be set to either high or low pass modes. It's worth noting that the original Model D was only low-pass, so this constitutes a nice modern enhancement. The filter has that lovely squelch you'd expect from anything with a 24dB ladder design and the resonance allows the filter to self-oscillate beautifully on the Model D.

Going back to the mixer, each oscillator has on/off switches as well as level controls, via big chunky knobs, as well as level controls for a noise source and an external input. There are two envelopes, one affecting the filter and one affecting the volume contour. Each has the ability to defeat the Decay portion. There's a single LFO with square or triangle shapes that can be routed to either the filter or the oscillators. And that's pretty much it!

Again, this is not new territory for Model D aficionados, and that's

### USING MODEL D FOR MIDI-TO-CV CONVERSION

One of the most useful reasons for having the Model D has nothing to do with its sound at all, and that's its use as a makeshift MIDI-to-CV converter. Given that there's a USB input that passes along note information, which is then sent out of the Gate and CV jacks, you can use the Model D as a pseudo MIDI-to-CV converter. This is handy if you have other modular gear that you want to sequence from inside your DAW, but you don't have a DC-coupled audio interface.

the point! The circuit compared to a lot of modern synths is very simple, but given that there is no way to store patches, Model D's "what you see is what you get" philosophy makes it much easier to recall sounds you've come up with. You'll just need to keep a notepad or camera at the ready!

Behringer's Model D, as mentioned, comes in a small tabletop format that also can fit inside a Eurorack case. Giving users both options is incredibly wise, as the Model D can be used on its own, as part of your DAW setup using its USB/MIDI port, or as part of a larger Eurorack system. The Model D also adds 1/8" Eurorack-compatible inputs and outputs on its faceplate, giving users the ability to mix and match modulation sources from other modules, or simply send the raw oscillator shapes out to other parts of your modular synth.

## D-lightful purchase?

So how has Behringer's Model D held up since its arrival on the scene in 2017? Behringer has since significantly increased its synthesiser lineup, delivering reissues of the Pro-1, CAT, and WASP synths. But none of these instruments, even the Pro-1, have successfully achieved the same studied lineage and iconic sound of the Model D.

> The "what you see is what you get" philosophy makes it much easier to recall sounds

Thankfully, the chunky switches and big knobs of our Model D have held up over time, even after years of extensive daily studio use. We initially had a bit of concern over the tuning range of the oscillators, as ours was one of the first batch and needed to be sent back for calibration, but since then, it's been nothing but solid.

Thankfully Behringer have continued to update the Model D with small but significant upgrades. In December of 2018, the firmware was updated to 1.1.1, which saw Behringer implementing an online tool to help make adjustments to the poly chain settings and improved re-trigger reliability when playing legato notes.

Now that the Model D has been out for a few years and it's been put through its paces by many a producer, we can comfortably say that it really does nail that vintage sound and has found a permanent place in our workflow. FM

## FM VERDICT

VALUE

BUILD

LONGEVITY

USEFULNESS

## OVERALL

# 8.5

**Even without the ability to save patches, Behringer's first synth clone has proven to be a hit**

## THE PROS & CONS

**+**

Behringer nailed the sound of the Model D's circuit; vintage snobs can rest assured

**Eurorack interactivity greatly expands what the Model D can do when integrated into a larger system**

Affordable for a range of synthesists

**–**

**The all-analogue Model D has no memory at all so can't save patches**

Some early units of the Model D had tuning issues

**The somewhat limited architecture of the Model D isn't as inspiring as new, unexplored circuits**

# PLUGIN SYNTHS

## VCV Rack Pro 2

$149

**Full Review:** FM380

Although a lot of what is new in this version is under the hood, there are enough new features to make this a solid update

## Arturia Pigments 3

€199

**Full Review:** FM372

With 3.0, Pigments has become an absolute powerhouse of software synthesis, capable of just about anything – and it's still a free update for existing users!

**Kilohearts Phase Plant** €169

**Review: FM350** Phase Plant's modular architecture is an incredible resource for conjuring real and otherworldly sounds. A powerful, flexible synth in every way!

**GForce OB-E** £179

**Full Review: FM370** There are many Oberheim emulations right now, but OB-E's 'Octaphonic' approach is unique. Want an authentic Oberheim experience? OB-E delivers in spades.

**Roli Equator 2** £179

**Review: FM367** A major step up from version 1, Equator 2 goes toe-to-toe with any 'super synth' on the market, and makes a very convincing case for the power of MPE.

**Native Instruments Massive X** £179

**Review: FM348** A long time in the making, NI's follow-up to the most successful softsynth of all time doesn't disappoint.

**Spectrasonics Omnisphere** $499

**Review: FM294** Version 2 of Omnisphere is a must-try. Audio import is the standout new feature, but dig a little deeper and there are improvements in all areas.

**KV331 SynthMaster One** $79

An easy-to-use sibling to KV331's great SynthMaster. With more than 500 presets and user wavetable import, you get a lot of flexibility for the price.

**Vengeance VPS Avenger** €199

With powerful wavetable editing, a ton of modulation, an onboard drum machine, sequencer and plenty of effects, this is a true power synth.

**FXpansion Cypher 2** £159

**Review: FM336** Despite a slightly dense interface, version 2 of Cypher is a powerful synthesiser with a solid USP and some killer MPE capabilities.

# MIDI KEYBOARDS

## Novation SL MkIII

from £540

**Full Review:** FM338

Well-designed and versatile. For those who work with both hardware and software, this may be the best studio centrepiece on the market.

## Arturia KeyStep Pro

£339

**Full Review:** FM324

For melodic sequencing duties and flexible hardware control, this is one of the best keyboard devices around.

**Akai MPK mini mk3** £90

**Review FM363** A very decent upgrade with genuinely pro features, that cements its position in the top handful of mini keyboard controllers available.

**NI Komplete Kontrol A-Series** | from £119

**Review FM338** A quality controller combined with a well-rounded software bundle.

**Arturia MicroLab** £69

**Review: FM355** This may not tick all the boxes for a studio controller keyboard, but as a super portable travelling device, it hits the mark.

**Novation Launchkey Mini Mk3** £110

**Review: FM349** Small but well spec'd, this is a convenient and well-made controller that's great with or without Ableton Live.

**Roli Seaboard Block** £279

**Review: FM322** A unique and high-quality MPE-capable, expandable, two-octave controller with a price that makes Seaboards more generally accessible.

**NI Komplete Kontrol S-Series Mk2** £499

**Review: FM324** Komplete Kontrol MkII brings a whole sonic universe under your fingertips like never before, with deeper DAW integration too.

**NI Komplete Kontrol M32** £99

The M32 controller takes Native Instruments' Komplete Kontrol concept and places it into a properly portable, entry-level package with impressive results.

**Nektar Impact LX88+** £249

**Review: FM315** The LX88+ combines a pretty good keyboard with extensive DAW integration, and is about as good as you'll get at this price point.

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